

STATE OF NEW YORK

DEPARTMENT OF HIGHWAYS

ROAD RED BOOK

OF THE

Bureau of Town Highways

1910



BULLETIN No. 1

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Conference of the Commission and County Superintendents at Saratoga Springs, N. Y.

STATE OF NEW YORK
STATE HIGHWAY COMMISSION

BUREAU OF TOWN HIGHWAYS

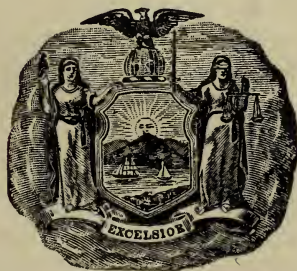
BULLETIN No. 1

Containing Practical Suggestions and Directions to
Highway Officers Relating to the Construction,
Improvement, Repair and Maintenance of
Town Highways and Bridges, the High-
way Law of 1908, as Amended,
and the Motor Vehicle Law

BY

FRANK D. LYON

Deputy Commissioner



January, 1910

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PREFATORY NOTE.

The highway system of the State of New York entered upon a new epoch in its history with the introduction of the Highway Law on January 1, 1909. This law did more than to revise and codify already existing laws. By it were originated entirely new methods of State, county and town administration of highway affairs. By it a unity of central authority and supervision with local control and responsibility was accomplished. This was effected by creating a State Highway Commission with full power to aid, supervise and direct the local officer in administering highway affairs in his locality on the one hand, and on the other by retaining in the local officer all his powers and responsibilities in respect to local conditions and the expenditure of town and county funds. By it was outlined a comprehensive system of trunk highways and means provided for their construction at the sole expense of the State. By it was outlined a system of county highways to be constructed by the State at the joint expense of the State, county and towns. By it the antiquated and ineffective labor system of taxation for town highway maintenance was entirely abolished and the present money tax system instituted. Provision was made for the supervision of not only the work of local officers charged with the care of the highways, but also of those in charge of raising, keeping and expending the moneys to pay therefor.

The interests of the town and county in the construction of both town and county highways have been amply protected by the different safeguards providing for the awarding of contracts and the State's supervision of their execution, and by a system of uniform accounting of all moneys raised for highway, bridge and miscellaneous purposes and the proper audit thereof by representatives of the State Highway Commission.

This volume deals purely with the Bureau of Town Highways and its work and in its preparation no attempt has been made to enter into any questions relating to any portion of the highway work which is not directly connected with the Bureau of Town Highways.

In the following pages will be found the matter embodied in the different pamphlets which have been issued by this Bureau from time to time, consisting of directions for the guidance of the various town and county officers, the construction of culverts and short span bridges, the location and drainage of highways, the use of snow rollers or packers in the removal of obstructions caused by snow, hints upon construction of earth roads under different conditions with sundry cuts illustrative thereof, and various other articles and papers directly bearing upon the work of this Bureau.

S. PERCY HOOKER, *Chairman,*

T. WARREN ALLEN,

ROBERT EARL,

Commissioners.

Albany, December 1, 1910.

VALUE OF HIGHWAY IMPROVEMENT.

The value of good roads can scarcely be over-estimated. The State, county and town cannot attain to their full share of prosperity until each and every mile of the eighty thousand miles of highway in the State have been repaired and improved. The amount of travel which each highway or section thereof is called upon to carry, naturally and necessarily governs the required time, attention and necessary outlay therefor.

Steam and trolley railways will not and cannot take the place of public thoroughfares. The construction of such railways simply creates a demand for good roads. The distinction between good roads and bad roads implies that the communities through which they pass are progressive or dormant, prosperous or non-prosperous, enjoyable or unpleasant.

The proper maintenance, repair and improvement of public highways is dependent upon skill, experienced direction and an efficient system. A problem not easy of solution has been to devise means so that the towns of the State, either by an appointive or an elective system, can secure men of the right character to take charge of work of this importance; and when once appointed or elected, there should be no disposition on the part of the authorities of the town to demand a change on account of personal pique or for any other reason excepting malfeasance or misfeasance in office. Permanency in office is an essential. In towns, local men have been selected, who necessarily must gain their knowledge at the expense of the town. The best man obtainable, regardless of political affiliations, should be elected or appointed as town superintendent. He should be a man of good practical judgment, capable of laying out the work, and of handling and directing men. He should make a careful study of the principles of roadmaking and the local conditions in order that the best results may be obtained. Citizens of a town should always bear in mind the fact that the proper education of a good town superintendent is an expensive matter and that when a town has a good superintendent, well educated in road building methods, it is extremely poor

economy to discontinue his services and undertake the education of a new man. Drainage, grading, crushing stone, the selection, hauling, and handling of stone and gravel, the method of placing these materials on the road, all suggest the many details which tend to economical and good results.

Good roads are important to the financial, social, and educational welfare of any community and any enumeration of their advantages is likely to include all the benefits. The principal advantages of good roads are as follows: They decrease the cost of transportation; they permit the cultivation of crops not otherwise marketable; they give a longer time for the marketing of crops; they permit marketing to be done when prices are most favorable; they give a wider choice of marketing places; they tend to equalize railroad traffic; they tend to equalize mercantile business between different seasons of the year; they permit more easy intercourse between residents of rural communities and also between rural and urban populations; they facilitate the consolidation of rural schools and the rural free delivery system.

As a result of the new law it became necessary for the Commission to prepare various directions, suggestions, and information for the guidance of officials who are to be in direct charge of the work and of the funds. In general the results have been extremely gratifying. Mistakes have been made and errors have occurred but these are not nearly as great in importance or number as might have been reasonably expected from so radical a change as was made by the introduction of the new system. With each succeeding month the work becomes more and more systematized and the machinery runs more smoothly, and there is every reason to believe that in the very near future, the hopes of the originators of this system will be fully realized.

ORGANIZATION.

The organization of the Bureau of Town Highways is as follows:

First.—The second deputy in charge.

Second.—An assistant to the second deputy.

Third.—Ten district supervisors, each of whom is assigned to a subdivision of the State defined and known as a district, and comprising from four to seven counties to each district.

Fourth.—In accordance with the provisions of law, fifty-seven county superintendents appointed by the respective boards of supervisors.

Fifth.— Nine hundred and thirty-four town superintendents elected by the towns.

Sixth.— The 934 supervisors of the respective towns of the State who by law are the custodians of the town highway funds, to which is added the money paid by the State as State aid, and who are required to pay out these funds upon the written order of the town superintendent.

Seventh.— The other members of the town boards in conjunction with the supervisor and town superintendent in entering into an agreement as to the proper expenditure of the highway moneys.

MAPS.

Soon after the organization of the Bureau it became apparent that a comprehensive system of maps, either by county or towns, would ultimately become a prime necessity in the proper conduct of the work. Accordingly it was determined to prepare a series of town maps covering the entire State. Draftsmen were employed and the work has been progressed during the past year to the extent that about one-half of the primary work is completed. This system when completed will be found valuable in keeping a record and designation of highways, bridges, sluices and culverts and the condition of the same, repaired and improved or to be repaired and improved, and will enable the department and the different county and town officers to keep closely in touch with the progress of all affairs relating to highway improvement in each of the different towns.


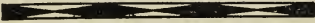

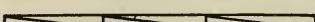
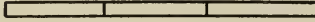






The completed maps show the character of all portions of roads in each town, also the kind and class of construction of bridges, sluices and culverts. Legends have been adopted by means of which are shown the exact character of every piece of work, whether State or county macadam, town macadam, gravel, or earth which have been only shaped and crowned or which have not been shaped or crowned or otherwise improved. Legends have also been prepared which show the character and construction of every sluice or culvert and as improvements or changes are made, from time to time, these maps are to be corrected in accordance therewith so that they may furnish at all times a complete and accurate record of the character of the different improvements as made. The cut on page nine is representative of a quarter section of a town. It will be noticed that in accordance with the legend State, county and town macadam highways are shown, also

town gravel roads and town roads which have been shaped and crowned. At the intersection of every highway the elevation above the sea is indicated by figures. All buildings are located. It will be seen that the plan is adopted of naming the highways and numbering the culverts and bridges, a single circle indicating a culvert and a double circle indicating a bridge. By reference to the legend it will be easy to determine the class or kind of construction. The plain circle, either single or double, indicates the fact that at some future date it will be necessary to replace such bridge or culvert in accordance with the rules and regulations of the Commission.

A portfolio containing the towns of each county will be retained in the Albany office and a portfolio containing each town of each county will be forwarded to the county superintendent and single sheets of each town will be furnished the supervisor, town superintendent and town clerk and the other members of the town board upon request.

It is the plan as soon as these maps are completed and the system fully inaugurated, to confine all correspondence which has reference to highways, culverts or bridges, within a town, to any road by name and to any culvert or bridge by number. County and town officials are particularly requested to carefully scrutinize the cut referred to, to the end that they may familiarize themselves in advance with this system.

All these maps are drawn on a scale of three inches to the mile and all highways are uniformly indicated one-quarter inch in width regardless of scale.

LEGEND		
ROADS STATE  COUNTY  TOWN (STONE)  TOWN (GRAVEL)  TOWN (SHAPED & CROWNED) 	TO BE ELIMINATED CAST IRON PIPE OR CAST SECTIONAL SLUICE STONE MASONRY OR CONCRETE TO BE ELIMINATED IRON OR STEEL CONCRETE MASONRY ARCH I-BEAM OR CONCRETE FLOOR	CULVERTS ①  2 x 2 ⑤  12" ⑨  4 x 6 BRIDGES ②  14 x 16 ④  12 x 16 ⑦  14 x 18

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TOWN HIGHWAYS AND BRIDGES.

In accordance with the provisions of section 11 of the Highway Law the duties of the deputy appointed by the Commission to supervise the work under the jurisdiction of the Bureau of Town Highways relates entirely to the repair and maintenance of town highways and bridges and has no connection whatever with the construction of State or county highways or their maintenance.

Town Highways.

The work performed under the direction and supervision of the Bureau of Town Highways, relates to the repair, improvement and maintenance of all highways of the State which have not been improved as State or county highways, and at this date embraces a total mileage of 79,646 of which 2,318 miles have been macadamized, 8,177 miles gravelled and 53,621 miles shaped and crowned. It must be noted that this improvement is in addition to 2400 miles of State and county roads, which have been constructed under the direct supervision and authority of other bureaus connected with the State Highway Department.

There was levied and collected by tax in the various towns for highway purposes for the fiscal year ending October 31, 1909, \$2,526,612.39, on which the State was required to pay State aid to the amount of \$1,441,751.20. The following table shows the total receipts for highway, bridge, machinery and miscellaneous purposes:

Highway tax	\$2,526,612 39
State aid	1,441,751 20
Balance on hand from previous year.....	197,012 10
Bridge taxes	749,882 24

Machinery taxes	\$203,845 26
Miscellaneous taxes	392,142 27
Town superintendents' salaries.....	504,562 63
Compensation for supervisor and town clerk....	93,327 99
	<hr/>
Total.....	\$6,109,136 08
	<hr/> <hr/>

The total value of tools, implements and machinery owned or in the possession of the towns throughout the State aggregates nearly \$1,250,000.



GENESEE COUNTY.—Town Road in Town of Pavilion.

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CONSTRUCTION AND REPAIR OF TOWN HIGHWAYS.

Maintenance of Earth Roads.

The proper maintenance of earth roads, considering the State at large, is unquestionably of more importance than any of the problems that are solved and to be solved either in construction or maintenance of more expensive roads.

At the present time for every mile of road improved by the State there are more than twenty miles of town roads, and, under the present plan when all roads are improved that possibly can be by the State or by the State and county, there will still be more than eight miles of town roads for every mile of road improved as above. Therefore, the careful consideration and attention of town officials are called to a study of this specific and special subject.

Much has been written regarding the question of gradients, standardization as to width and crown, etc., the proper conception of which means the placing of public highways in such a condition that they may be preserved and maintained at a minimum cost. It has been demonstrated that by the proper use of road hones the minimum cost of maintenance is attained on such roads as have been properly drained, shaped and crowned to a standard width of twenty-four feet between ditches.

The skeptic who desires to verify the following statement is at liberty to correspond with the county superintendents of any one of the counties of the State that has been progressive enough and had co-operation enough on the part of the town superintendent to establish an ideal system of earth roads. It has been demonstrated in many instances that for terms varying from one to six years and under varying conditions of soil and traffic, by a systematic use of road hones in districts varying from three to six miles each, earth roads have been maintained and kept in an ideal condition at an average cost of less than six dollars per mile per year. If the directions contained in this bulletin which relate to road honing are carefully carried out it will be noticed that a town

with 100 miles of public thoroughfares can maintain and keep those roads in the condition as above described, barring extraordinary conditions, at an annual cost in the neighborhood of \$600 per year. If this same town received by tax and by State aid \$50 per mile, or \$5,000, which is very common, it will be noticed that in any town where the roads have been shaped and crowned and properly drained, and then maintained in this manner there will be an annual fund of over \$4,000 available for permanent improvement, such as surfacing with gravel or crushed stone.

LOCATION AND DRAINAGE OF HIGHWAYS.

A country road should be thoroughly drained in order that it may be kept dry; the best available material should be used; great care should be taken to keep the surface smooth and free from ruts and depressions, and efforts should be made to reduce steep grades by cutting off the top of each hill and filling in at the bottom.

Those who drive over a road can easily discover whether it is a good one and whether proper care and attention has been given in carrying out the suggestions for the guidance of town superintendents.

A good road must be kept dry, and in order to keep it dry, after proper attention has been given to drainage, the crown must be preserved and all depressions filled so that it will not become watersoaked; and at no time should any part be allowed to remain in such a condition that it will retain water on its surface.

This article treats of the two items which it is believed are by far the most important in the construction, repair and maintenance of highways, viz., location and grades, and drainage.

Location and Grades.

One of the greatest defects, and often one of the most expensive to remedy, is a faulty location. Many of the New York State roads are built over the tops of the highest hills and down into and out of the deepest valleys, most of which could have been avoided had the roads been properly located when first laid out.

Of course, with a faulty location we have many steep grades that limit the load that can be moved over the better portions of a road between steep grades. A chain is "no stronger than its weakest link," and the load from farm to market is limited by the steepest grade or the poorest road over which it has to be carried. The steeper the hill the smaller the load that can be moved by the same amount of power.

Accurate tests have shown that a horse which can pull on a level road 1,000 pounds, on a rise of

1 foot in 100 feet can draw only 900 pounds.

1 foot in 50 feet can draw only 810 pounds.

1 foot in 44 feet can draw only 750 pounds.

1 foot in 40 feet can draw only 720 pounds.

1 foot in 30 feet can draw only 640 pounds.

1 foot in 25 feet can draw only 540 pounds.

1 foot in 24 feet can draw only 500 pounds.

1 foot in 20 feet can draw only 400 pounds.

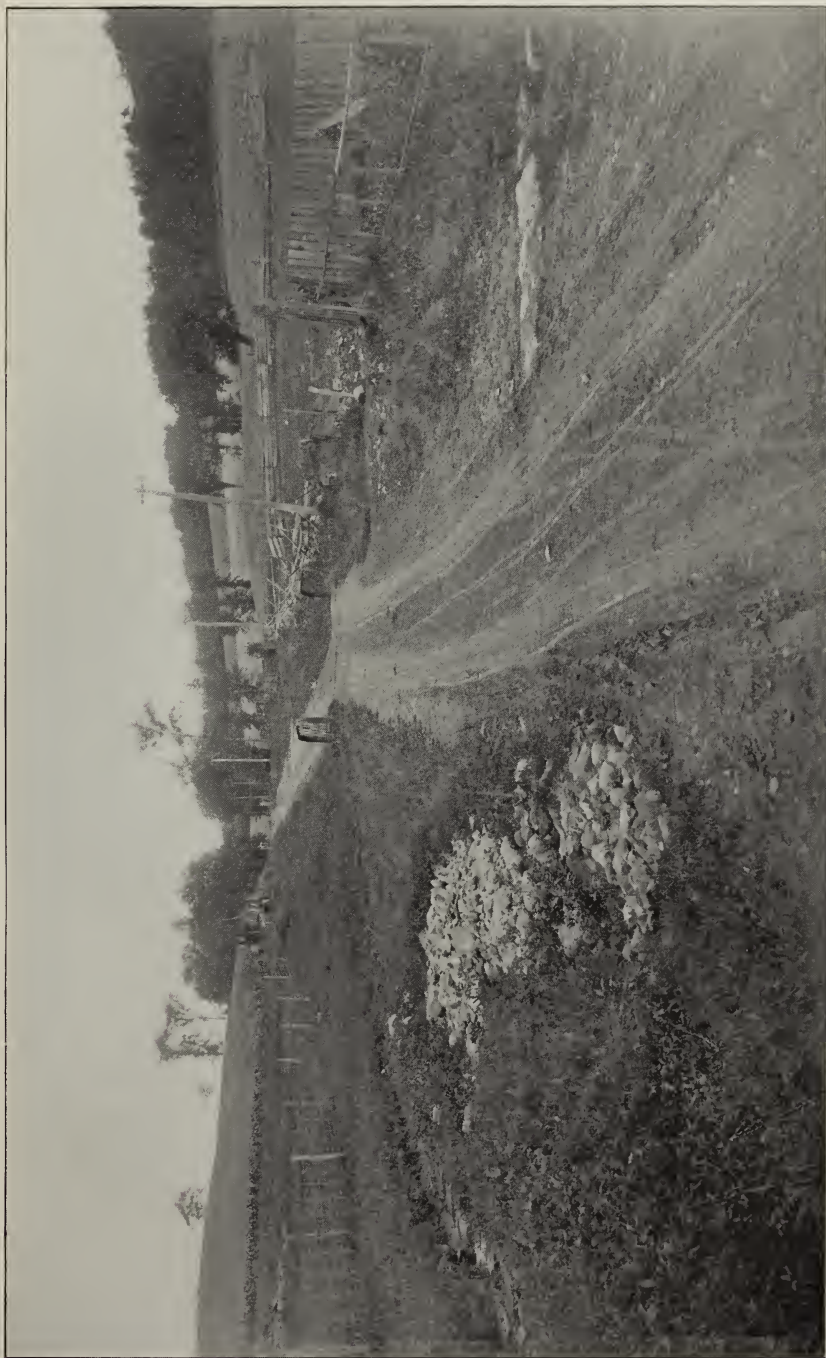
1 foot in 10 feet can draw only 250 pounds.

A road with steep grades is usually difficult and expensive to maintain, as the surface water has a greater velocity down the steep grades and often seriously damages the roadway and ditches during heavy rainstorms.

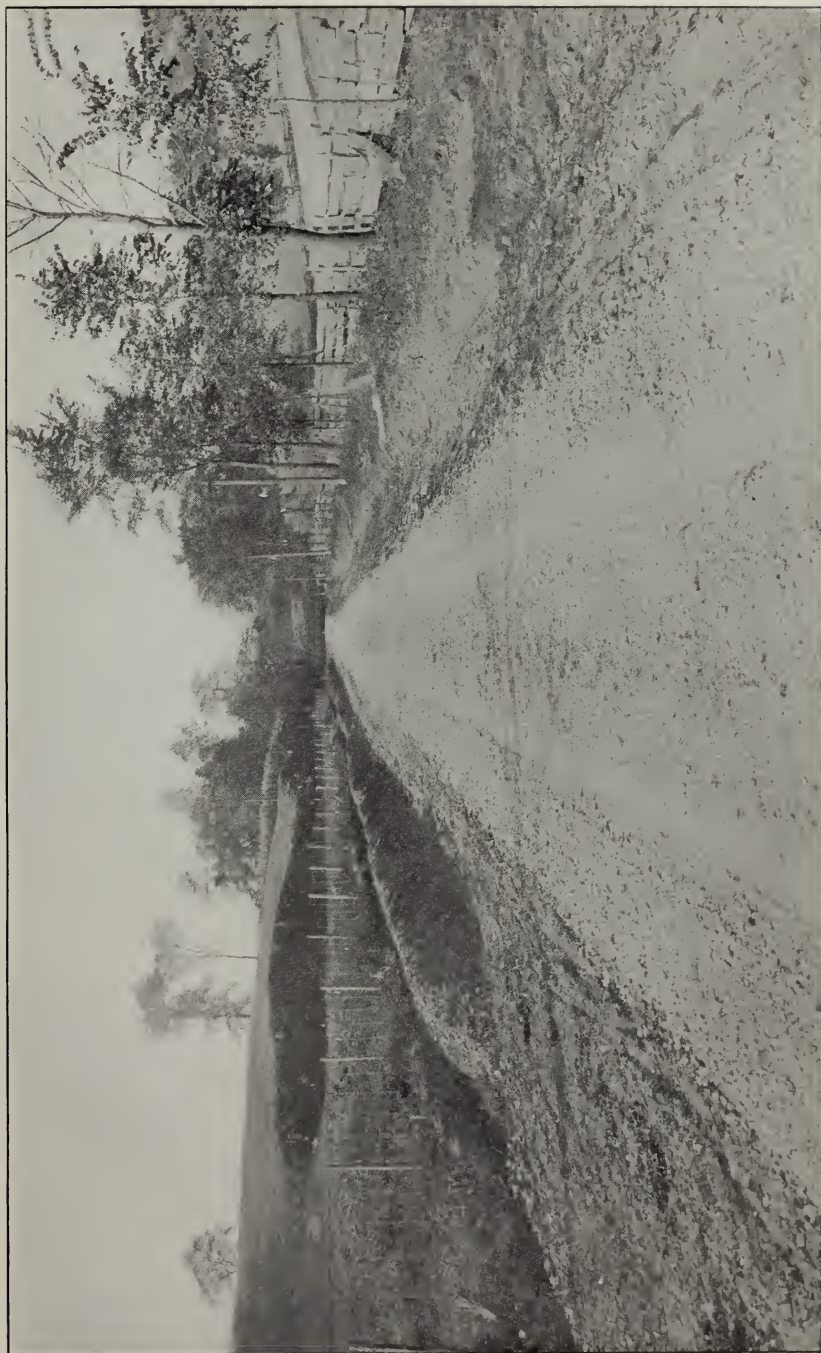
In a great many cases the location of the road may be improved by placing it where soil conditions for drainage and surfacing are better, avoiding swamps where the soil may consist of vegetable matter or be otherwise unsuitable. Thus the cost of maintenance may often be reduced by an improved location. Again, the unnecessary crossing of hill, valley, swamp, stream or railroad may frequently be avoided by giving the road a new location.

The steep grades on our country highways should be eliminated as fast as the means available will permit, starting with those that are steepest and which are situated on those roads having the heaviest travel. If the grades cannot be reduced to a five, six or seven foot rise in 100 feet horizontally, with a moderate amount of excavation at the top and an embankment at the foot of a hill, it is then wiser to seek a new location and go around instead of over, remembering the old saying that "the bale of a bucket is no longer when it is horizontal than in a vertical position." If possible each steep grade should be reduced to the permanent maximum grade decided on by the commission, division engineer or district or county superintendent with permanent drainage plan and a proper surface provided. If the grade is only reduced a small amount year after year, as is common practice, the roadway is annually torn up and made impassable for public use.

A proper drainage plan is as essential on a hill as elsewhere. The water should be turned away from the road at the top of the hill, and as frequently as possible led out of the ditch before



SCHOHARIE COUNTY.—Town of Carlisle. Section of road which previous to improvement was almost impassable for several weeks during the spring and always bad when wet. Two bridges necessary by reason of small brook crossing the road twice within short distance.



SCHOHARIE COUNTY.—Town of Carlisle. Road shown on cut facing page 14 after improvement. Brook carried whole distance on one side of road, track straightened and shaped with road machine. Crushed stone 10 feet wide, 10 inches to 18 inches deep, cost \$1,200 per mile.

the bottom is reached, by building of proper culverts or sluices. The practice of carrying water long distances in the ditches allows it to accumulate in sufficient quantities to damage the road and ditches during and after heavy rainstorms. Provision should be made for the disposal of water from the roadside ditches by carrying it through private property with necessary drains wherever an opportunity exists. The crown of a road on a hill should be somewhat greater than on the level in order that the water may be carried to the ditches quicker, and should not be allowed to run down the hill lengthwise of the road following the wheel tracks, thus causing ruts.

The benefits of an improved location will be enjoyed at all seasons of the year, by all persons and by future generations.

Drainage.

Among the road builders of to-day good drainage is recognized as one of the most important considerations, whether the roads in question be of earth or those with a surface of stone, gravel, slag or other material. No subject involved in the construction, repair or maintenance of an earth, gravel or macadam highway is of as much importance as that of drainage.

Water is the natural enemy of any road, and best results can not be obtained from the materials used, let them be what they may, until the water is eliminated. This is a matter which, generally, has been very much neglected — probably from a lack of a clear understanding of its importance. No one item adds more to the good quality of any road, and no one cause operates more quickly to destroy it. If earth roads could be made so that their surface should be practically impervious to water, and the water beneath the surface be removed, such a condition would produce really ideal roads. The soil absorbs water easily, so that it is scarcely possible to make a surface that will shed it all, especially in climates where the surface is subject to periodic freezing, thawing and rainfall. Roads which are excellent during the summer season, when the roads can be kept intact, lose the semblance of their summer and fall conditions during the winter and spring months mainly because the surface is not waterproof, and when a road builder so utilizes local materials as to produce a roadway the subgrade of which shall be dry — either naturally or artificially — with a surface which is impervious to water, then he has the perfect road.

Drainage is accomplished in two ways, viz., by surface and underdraining, and each in its way is vitally important. Surface drainage is exactly what its name indicates, that is, the disposition of the surplus water carried on the surface of the ground, and it is accomplished usually by properly crowning the roadway thus carrying the water into open side ditches which must have a grade sufficient to properly discharge all waters which may be carried to them.

Side Ditches.

The crown of a road upon a grade should be greater than upon comparatively level surfaces, for the reason that on a grade it is necessary to crown the road to an amount sufficient to cause the water to flow toward the ditches instead of lengthwise of the road.

Side ditches should be of such cross section that a road machine may be easily used in their formation and maintenance, as when so constructed they are much more easily and cheaply cleaned and kept in repair. Deep side ditches, as a rule, are undesirable not only because of the fact that they are difficult to maintain, but it is extremely difficult to construct a deep ditch of such cross section that it does not form a constant element of danger to traveling vehicles which may by accident be driven into the ditches.

Berm Ditches.

Another form of surface drainage which in many places would be of very great assistance in maintaining the highway, and which in this State especially has been but little used, is what is known as a berm ditch. This is an open ditch, usually at the top of the bank, alongside the road, the object being to intercept surface water coming from territory beyond the ditch, and preventing it from soaking into or washing down the face of the bank.

The sliding of banks, especially those of a clayey nature, is a frequent source of trouble, and in many instances a very expensive one. This sliding is in nearly all cases caused by the material of which the bank is composed becoming saturated with water from the lands lying back of it, and by cutting off this surface water by means of a berm ditch before it reaches the bank, troubles of this kind are in many instances entirely obviated.

Instances are rare where it will be found necessary to dig a berm ditch deeper than three feet, and in very many cases two feet is sufficient. When the underlying soil is hard-pan, hard clay, or any other impervious material, the ditch must be cut down to, and a little way into, the hard material in order to effectually prevent water passing to the face of the bank.

Underdrains.

Under very many conditions surface and subdrains are each vitally necessary to first class work. The matter of surface drainage as applied to side ditches is one which in recent years has been quite thoroughly canvassed, and there is now generally a satisfactory understanding in regard to the subject by those who have to do with the repair and maintenance of highways, but the matter of underdraining is one to which comparatively little attention has been given, and which, without shadow of doubt, has been the cause of countless numbers of failures of roads which, had they been properly underdrained, would have been good roads in every sense of the word.

All locations where water is present in the soil for any considerable period of time at a depth of three feet or less from the surface should be underdrained. Underdrains will keep a good base upon which to build a road, and will prevent the material of which the road is composed becoming softened by water coming up from below through the subgrade by capillary attraction, but surface water can not reach underdrains through a puddled surface, and one fact patent to every observer of an underdrained road is enough to prove the necessity of close attention to surface drainage, and that is this: that when by any means a hole has been made and puddled by the continuous action of the wheels, practically no water will pass through the soil at those places. The water must be evaporated or the puddle tapped by a surface ditch. Still better than this is the practice of such frequent use of road hones or drags that ruts are never allowed to acquire any considerable depth by means of which water may be retained. The surface should receive such care at all times as is necessary to keep it crowned and to drain water from all portions of its surface quickly to the side ditches.

Subdrainage in very many instances lessens the cost of construction of hard roads rather than increases it, by reason of

the fact that on the subgrade which is properly underdrained a less thickness of covering metal is required. The difference in cost as between the amount of metalling required where sub-drainage is not practised, and that where it is, being almost universally in favor of underdrains.

Wherever water stands in the subsoil at a depth of three feet or less, and in very many cases at a greater depth than this, the overlying soil — that is, the portion between the water level and the roadbed — absorbs water from this underground reservoir by capillary attraction in greater or less degree, varying with the nature of the soil, thus keeping the subgrade of the road in a constantly moist and in many cases in a positively wet condition, under which circumstances a very slight excess of moisture applied to the top in the form of rain or melting snow at once produces an almost fathomless depth of mud. When properly underdrained a soil never becomes excessively soft, and the properly laid underdrains, by constantly removing any excess of water as fast as it appears, keeps this subsoil continually dry at all seasons of the year and becomes immediately an important factor in the character of the road so drained. When it is remembered that a dry road is almost universally a good road, the importance of the means of obtaining this very desirable quality of dryness at once becomes apparent.

At different periods various means have been utilized to accomplish this matter of underdraining. Various forms of underdrains have been laid, some of wood, some of stone loosely placed, others of stones laid in the form of a more or less regular tube, some of rocks, some of brush, etc., etc., but at the present time there is no question but that this result is the most easily and cheaply obtained by the use of tiles, either porous or glazed, the cost being in favor of the porous tiles as they can be produced more cheaply, and experience has shown that when properly laid there is practically no limit to their effective life.

The outlet of such drains should consist either of glazed tile or still better a short length of iron pipe to prevent injury by frost, and also by reason of its greater strength it is better able to withstand accident or rough usage. As regards size, tile of three-inch diameter will in the great majority of cases be found ample, and the instances are undoubtedly few in New York State in which it will be found necessary to lay roadside drains of a size larger than this.

As regards location, this should be preferably at either side of the road rather than under the center, not only for the reason that the first cost of the laying is much less at the side than in the center, but repairs, in case any should become necessary, are much more easily accomplished; and experience shows that such drains are equally effective whether placed under the center of the road or at the side, except in special instances where they may be necessary to carry off water from springs or springy places occurring directly under the bed of the road. Drains at one side of the road are usually found to be sufficient, and in cases where one line of tile only is used it should be located on the upper side of the road, the better to cut off water as it approaches the bed of the road from that side. The depth should not be less than three feet except where it may be absolutely necessary in order to procure the proper grade. Four feet is to be preferred in all instances, and of such records as are available the mass of testimony seems to be all in favor of a depth still greater than this. Data procured from accurate observations of tile laid at a depth of five feet shows a very remarkable efficiency as compared with that laid at a less depth, but in the soil conditions as generally found in the State of New York a depth of from three to four feet will, without doubt, be found to be the most efficient and economical, and depths other than this would only be necessary where special cases were to be dealt with.

Care should be taken in the alignment of the ditches for tile drains, and abrupt changes of direction avoided. Where change is necessary, it should be done by an easy curve. The grade is a matter of prime importance and should, if possible, be at least three inches per hundred feet, although a great amount of tile is laid on a grade less than this—in places it being found necessary to reduce the grade to two inches and in some places to even one inch per hundred feet. The bottom of the ditches should be carefully smoothed and brought to a true grade previous to the laying of the tile, preferably by means of a line stretched between grade stakes in exactly the same manner in which sewers are graded, but any means which insures a correct grade and smooth bottom is allowable. In laying, each tile should be carefully turned until its end fits closely to that of its neighbor, and the joints covered either with a piece of burlap folded, or with a little strip of tarred paper, after which the material excavated from the ditch is replaced—care being taken

to tamp the first few inches carefully above and around the tile to prevent any possibility of displacement.

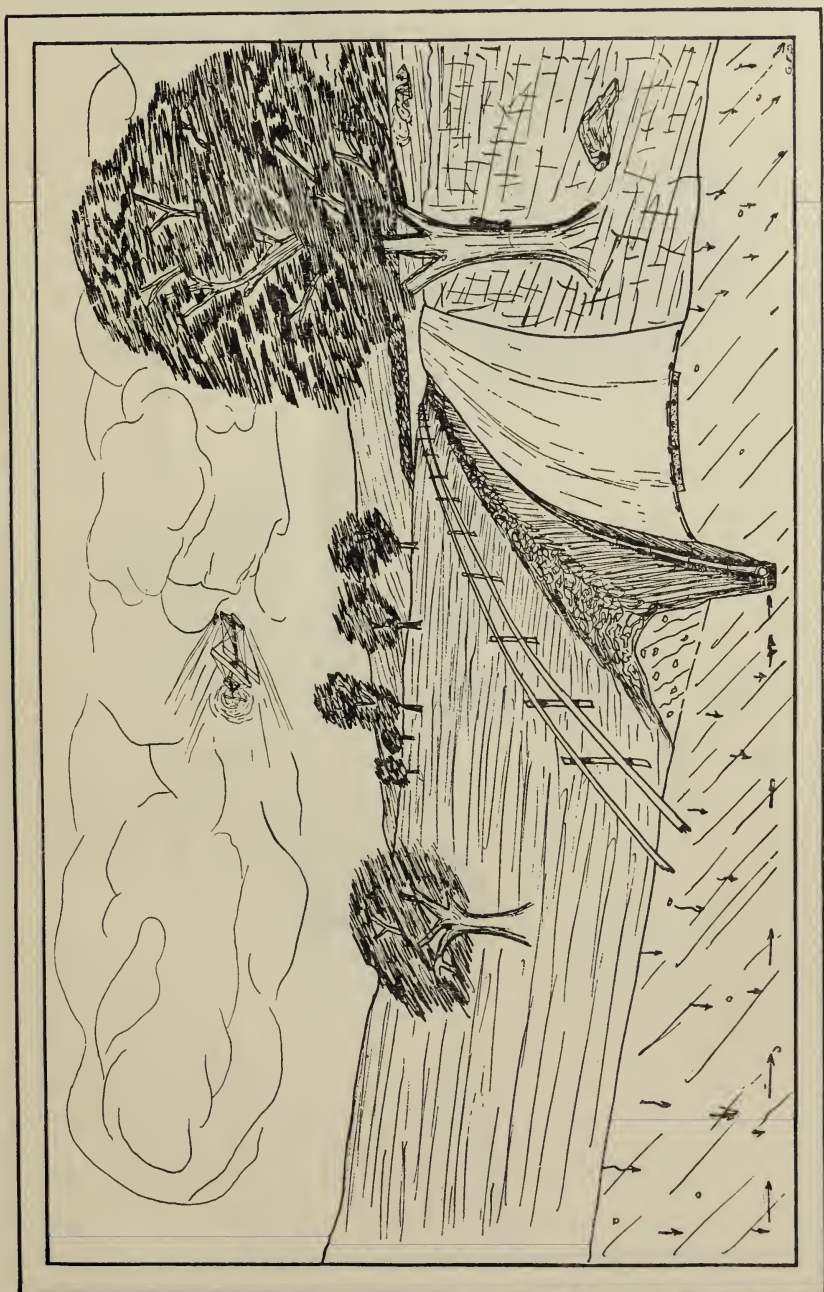
Water enters tile drains through the joints from the bottom. The amount of water entering a drain through the pores of the tile is so very small as to be a negligible quantity. This may easily be proved by plugging one end of a length of porous tile, placing it in a vertical position, filling it with water, and observing the subsidence of water in the tile, which must be by seepage through the body of the tile. Rainfall or other surface water reaches the tile by passing downward in a practically vertical course until it reaches the water table or ground water level, which is the level of the bottom of the inside of the tile. Surface water after reaching this level moves horizontally toward the tile as the water next the tile enters it, and is carried away. The cut on page 22 gives an accurate idea of the exact manner in which this is accomplished. No water enters the drain from the top except such as falls directly over it, and it is a mistake to fill the ditch immediately above the tile with permeable material such as small stones or gravel. This actually does more harm than good, to say nothing of the unnecessary expense.

The benefits derived from underdraining do not cease with the summer months, but its good effects are fully as important during the winter months as at other seasons of the year.

The heaving of the soil which is caused by a surplus of water in the soil has much to do with the unsettled condition of earth roads for the reason that the soil not drained becomes completely disarranged, thrown out of its natural position and softened so that the compactness of the load-bearing surface of the road is destroyed. Frost is harmless to a road where there is no water beneath it, and by keeping the foundations dry the road is prevented from being broken up in the spring.

A second object of underdrainage is to dry the ground quickly after a thaw. When the frost comes out of the ground in the spring the thawing is quite as much from the bottom, as from the top. If the land is underdrained the water when released by thawing from below will immediately be carried away. This is particularly important in road drainage since the foundation will then remain solid and the road itself will not be cut up.

Underdrainage will usually prevent "the bottom dropping out" when the frost goes out of the ground, and experiments in various localities throughout the State all go to prove that by





thoroughly underdraining roads underlaid with quicksand or clay formations, and which during the spring thaws become nearly and in many cases entirely impassable, by reason of a jelly-like condition, such places are entirely reclaimed and the trouble due to this cause is entirely done away with simply by underdraining. After a section of road of the above-described character has been thoroughly underdrained, the application of a light covering of gravel or crushed stone will make an excellent road out of one which previous to such treatment had been during the spring season, practically impassable, and at a much less cost than that of any other means by which the same results could have been accomplished.

SURFACING EARTH ROADS.

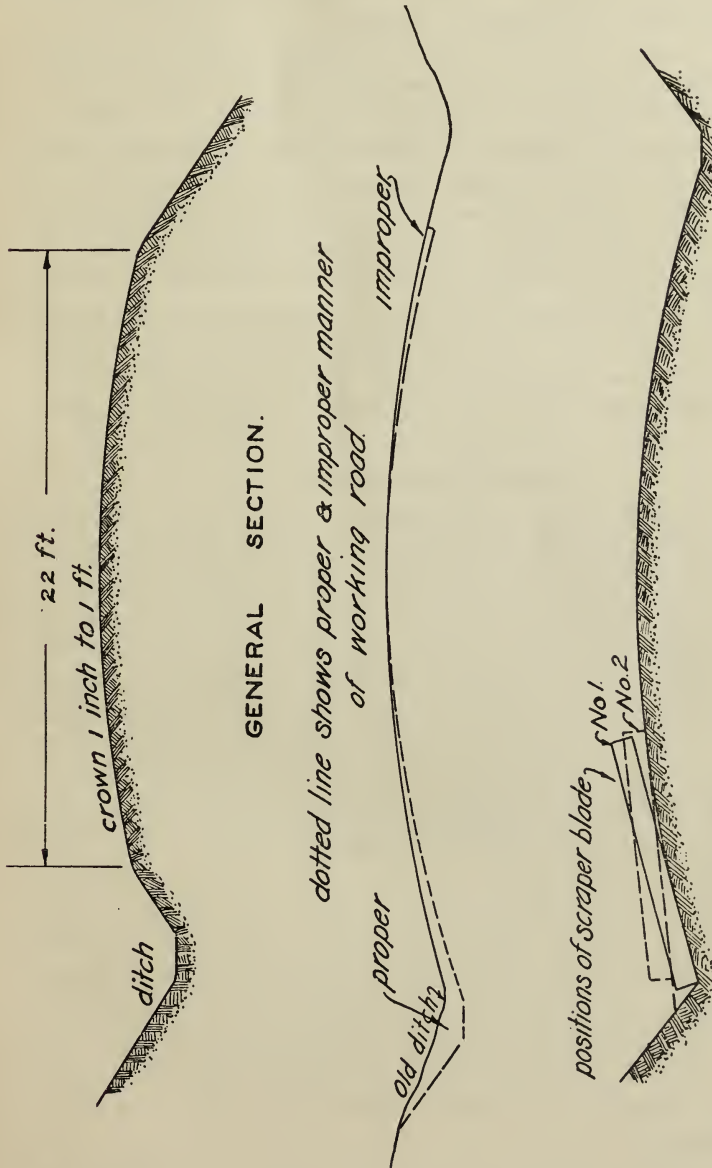
Any road surfacing material should be of the same quality and degree of hardness and durability throughout so that the surface may wear evenly and remain smooth and free from holes and depressions caused by the traffic. No attempt should ever be made to surface an earth road with gravel or crushed stone until it has received proper primary attention by standardizing as to width, proper shaping and crowning, straightening the ditch lines and the construction of substantial culverts and proper attention has been paid to the matter of drainage, etc. *Never under any circumstances place on the surface of the road sod, roots, organic material or any worn out dust or mud scraped from the ditches or sides of the road.*

After an earth road has been properly shaped and crowned, ditch lines straightened, proper culverts constructed and the road properly drained, those having the most traffic or the poorest natural surfacing material should have their surface improved by placing thereon the best available material not less than 8 feet in width or 6 inches in thickness. When the natural road is of loose sand this can be much improved by spreading over it a layer of clay or loam and allowing it to mix with the sand. Saw dust or vegetable matter in this case may be used to good effect on loose sand. When the natural road is of soft clay a layer of sand or gravel will stiffen and bind it and much improve it.

Repair and Construction of Earth Roads.

The drawing on opposite page shows the desirable shape for earth roads being the most general shape to be used in all sorts of soil excepting heavy clay or sand. The crown of a road consisting of clay should be reduced rather than increased and great care should be taken by the town superintendent to under no circumstances exceed the limit one inch fall to the foot on clay roads, and in all cases where conditions of this kind are found great care should be taken to provide safety ditches and also to place

guard rails at all dangerous points, it being understood that in the construction of guard rails payment for the same is to be made from the highway fund.



Where the soil condition is loose sand it is then the object to retain a sufficient amount of moisture in the roadbed to assist

in binding the sand. Therefore, the attempt to do much work in the way of shaping and crowning on a sand road is time and money wasted as the only means of treating a road of this character is by the application of foreign matter, gravel, crushed stone, clay, loam, sawdust or vegetable matter.

The attention of the town superintendent is called to the illustration showing the position of the scraper blade of a road machine in grading and scraping. This applies to ordinary soil conditions. The blade should be handled as illustrated by No. 1 in the third cut which will give the greatest material for the new surface of the road. As a matter of fact roads of a clayey soil should have deeper ditches than ordinary, but at the same time they should be made of a depth and section so as not to render travel thereon hazardous. It is absolutely necessary to preserve a proper crown to a clay road and the only way it can be done is to be eternally vigilant in the use of road hones or by the use of small two-horse road machines after it has once been properly shaped and crowned.

Gravel for Surfacing.

Gravel should be the best that can be obtained in the vicinity of the road. The fragments of stone should be hard, tough and durable, and their size should not exceed $1\frac{1}{2}$ inches in the greatest dimension. The larger stones should be screened out or raked off after having been placed on the road and used in the foundation by raking the same ahead as the work progresses. Naturally in a screening process several sizes will be properly proportioned so that the smaller particles of gravel are sufficiently great to fill the interstices among the larger ones and the gravel should contain a sufficient amount of binding material to fill the remaining interstices so as to form one solid impervious mass.

The binding material may consist of clay and loam which is clay mixed with sand and vegetable matter and has many of the characteristics of clay. Sand, stone, dust or some material which is fine enough to fill all the voids and make the finished gravel surface impervious to water when properly drained, crowned and shaped, may be used and the crown preserved by systematic road honing. The proportion of binding material should not exceed the amount required to fill the interstices, all in excess of this is only a damage.

In general the binding material should not be more than 15 or 20 per cent. of the total quantity used.

If the gravel as obtained from the pit is deficient in quality or quantity of binding material a sufficient amount of the proper quality should be added. Should the gravel contain an excessive amount of binding material, which is almost universally the case, the excess should then be screened or washed out. This last rule is inflexible if good results are to be obtained.

After the gravel has been spread to the proper width, thickness and shape, and this can only be done at a minimum cost by the use of an ordinary harrow and by thoroughly dragging the same after the gravel has been spread upon the road bed, the power roller should then be applied and the same rolled, and if too dry it should be sprinkled before rolling, or if the town is not in possession of a sprinkler, care should be taken to have the roller at hand so that the same can be used immediately following the first rain after the gravel has been placed.

Where the only material is shale only the hardest, toughest and most durable varieties should be used and right here the fact should be emphasized that any shale that does not show a glitter in fracture is unfit for purposes of this kind and should never be used excepting the same is to be applied to a sand road. Any shale that does not show a glitter is argillaceous and will turn into clay when exposed to the elements under traffic, and is absolutely worthless for road building purposes except on sand roads. After spreading to the proper width, thickness and shape, that is where shale has been used, if possible the same should be covered with a layer of sand or fine gravel and the power-roller used until a smooth surface is obtained.

It is not the purpose in this article to treat the question of the use of broken stone for resurfacing earth roads as that subject is treated under another head in this bulletin.

STATE STANDARDS.

As will be noted by the rules and regulations of the Commission it is aimed to establish standard widths of public highways. Modern conditions are such that the safety of the traveling public demands more care than formerly on the part of the State, county and town officials in the proper improvement of the highways so that the users of the same may be protected so far as possible from unwarranted hazard or injury. It has, therefore, been deemed expedient to urge that, generally speaking, all main thoroughfares should be shaped and crowned to a standard width of twenty-four feet between ditches and that in so doing safety ditches be provided, or that proper guard rails be constructed, and also that in the construction of culverts and bridges they shall be lengthened or widened as the case may be to conform thereto.

In some counties of the State the town authorities, in conjunction with the county superintendent, have undertaken by the use of maps to divide the highways of their respective towns into first, second and third classes. In all instances the first-class roads are to be improved and maintained at the standard width of not less than twenty-four feet, second-class roads, twenty feet, and third-class roads sixteen feet between ditches. For full information and direction as regards the standardizing of highways and bridges subject matter has been prepared under special heads which may be found on other pages of this bulletin.



State standard earth road, 24 feet between ditches.

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CULVERTS AND SHORT SPAN BRIDGES.

The construction and maintenance of bridges is a matter which merits the most careful consideration of all who have any part in highway maintenance by reason of the fact that the average travel on the highways of the State is constantly increasing, the average weight of loads hauled is steadily growing, and wood as a construction material is increasing in price and deteriorating in quality.

In repairs alone, entirely outside of new construction, about \$365,000.00 is annually required, and when it is considered that the major portion of this amount might have been saved had a more enduring form of structure been adopted in the first instance, it becomes at once apparent that true economy lies along the lines of that class of construction which shall be permanent and that the short-sighted policy which adopts the cheap form merely because it is cheap, results really in a waste of money.

In view of the foregoing statements it seems that it should be clear to every town official who has anything to do with the construction of bridges, or providing the necessary funds therefor, that he should bear constantly in mind the fact that permanent structures are the cheapest, and to endeavor to cause the bridges of his town to be erected according to a plan and in a manner to forever eliminate the repair expense, which at the present time forms such a formidable item of cost.

The aim of the Commission is for permanent structures. To that end all the town and county superintendents and all direct employees of the Commission should at all times aid in every possible way in the construction of culverts having the steel supports or reinforcement entirely enclosed in concrete. Concrete floors on bridges should be used in place of wood wherever possible, and in furtherance of this plan a series of articles on construction of culverts and bridges is given herewith. For culverts and short span bridges plans and instructions with notes accom-

panying are given, covering practically all conditions and requirement which are met within the bounds of this State for spans of from two feet to thirty feet. Estimates of quantities of the different materials required will be found in tables appended to each of the different plans, and the instructions given therewith are so plain and explicit that the majority of town superintendents will need but little additional aid to enable them to erect structures with local labor and out of local material which shall be a credit to all concerned.

Plate 1 shows a wooden form for box culverts which may be collapsed after the culvert is completed and used on practically any number of successive structures.

Plates "2" and "2-A" show a culvert constructed with expanded metal reinforcement, with spans of two feet to ten feet, with additional reinforcement of three-fourths-inch rods in nine-foot to ten-foot spans.

Plates "3" and "3-A" show method of construction with reinforcement of rods in spans of ten feet to thirty feet.

Plates "4" and "4-A" show method of construction with reinforcement of I beams with span of ten feet to thirty feet.

Plates "5" and "5-A" show flat slab top supported on I beams, the I beams being left exposed, in spans of ten feet to thirty feet.

Plates 6 and 7 give isometric view of construction according to Plans 4 and 5, showing very clearly the method of construction and appearance of the finished work.

Stone or concrete box culverts are superior to pipe as they are less liable to freeze and become clogged, broken or damaged, and are more easily cleaned. Culverts of the wooden box type should not be constructed nor should tile be used for such purposes. A culvert which can be constructed by the use of concrete without skilled labor is shown by drawings on Plate 2. Culverts of this character cost more to build than those constructed with dry masonry walls and a plank top, but they are more economical because no repairs are necessary when they have been properly built.

The following directions and suggestions relative to the methods of mixing the proportions of ingredients to be used, which are as follows should be observed.

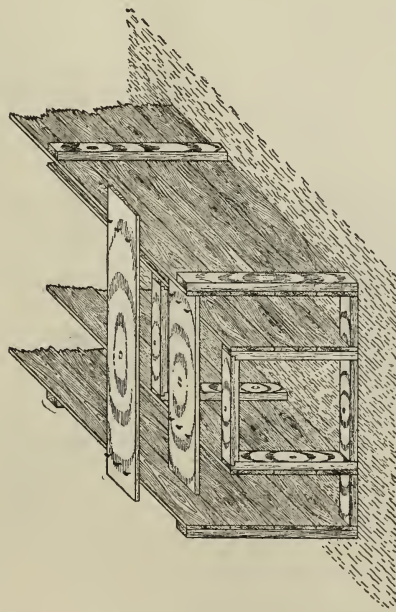


PLATE I

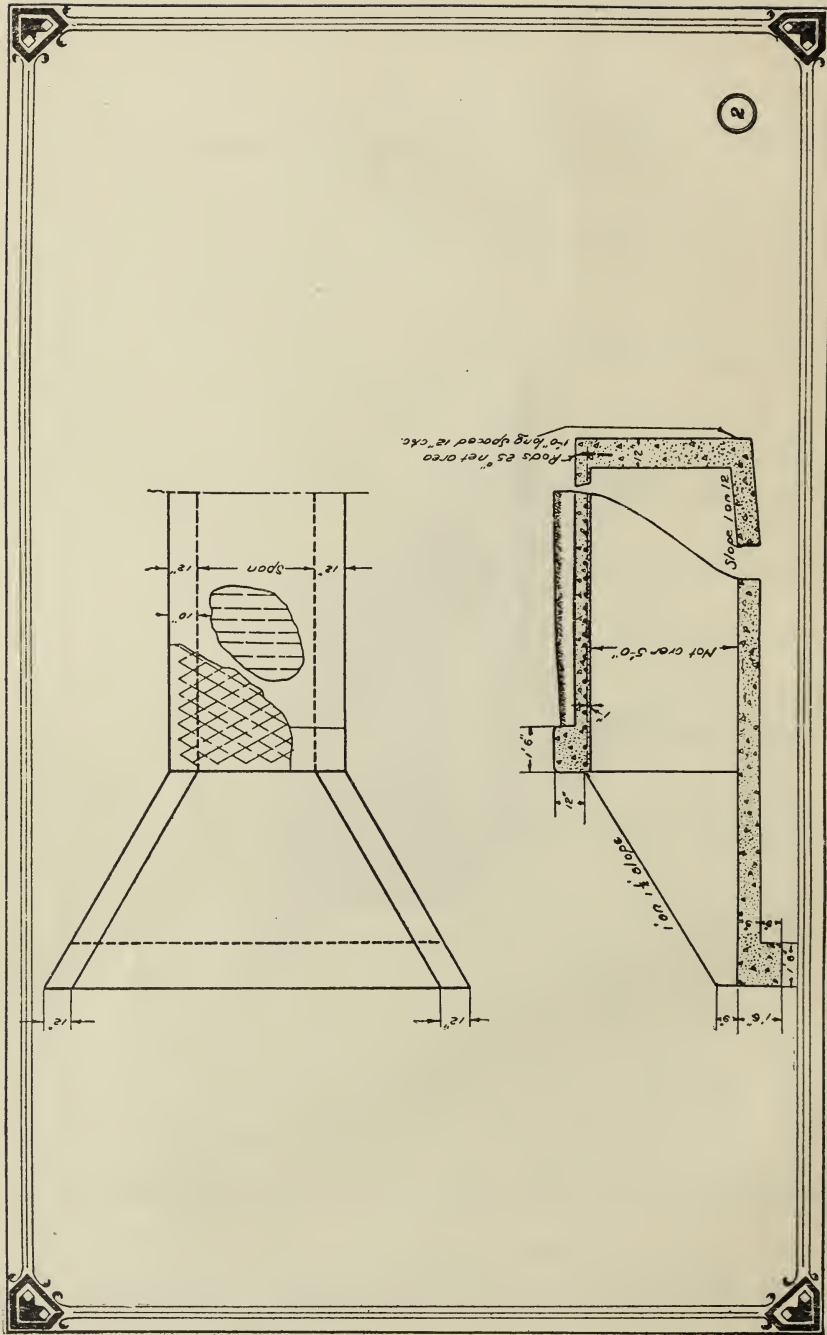


PLATE 2

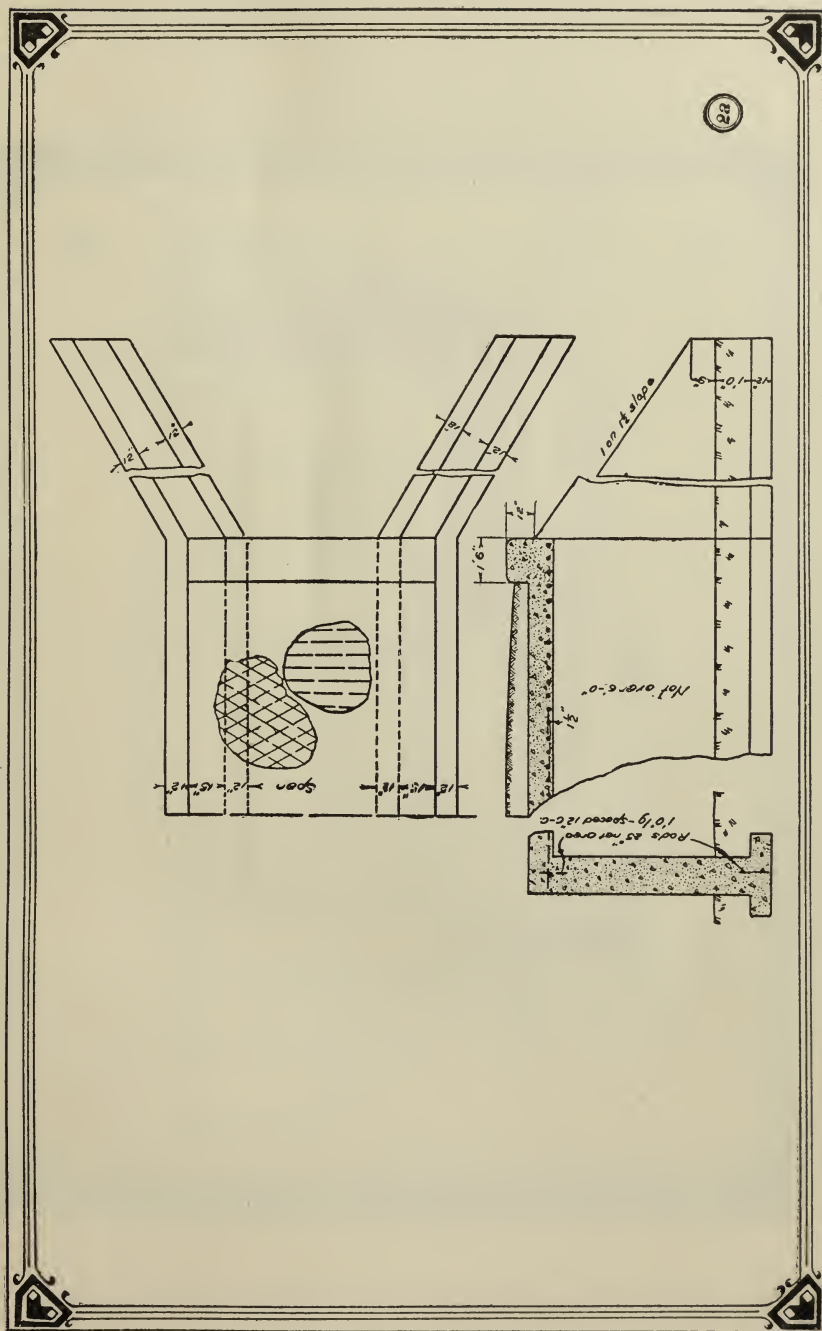


PLATE 2a

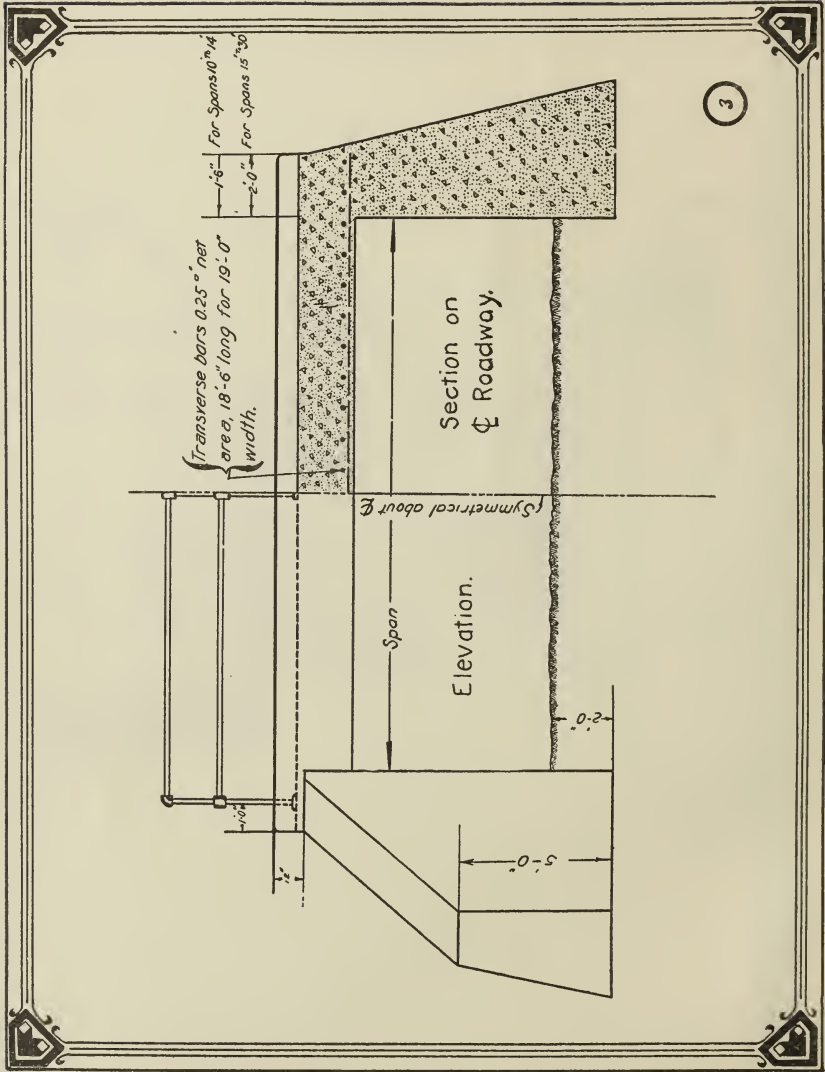
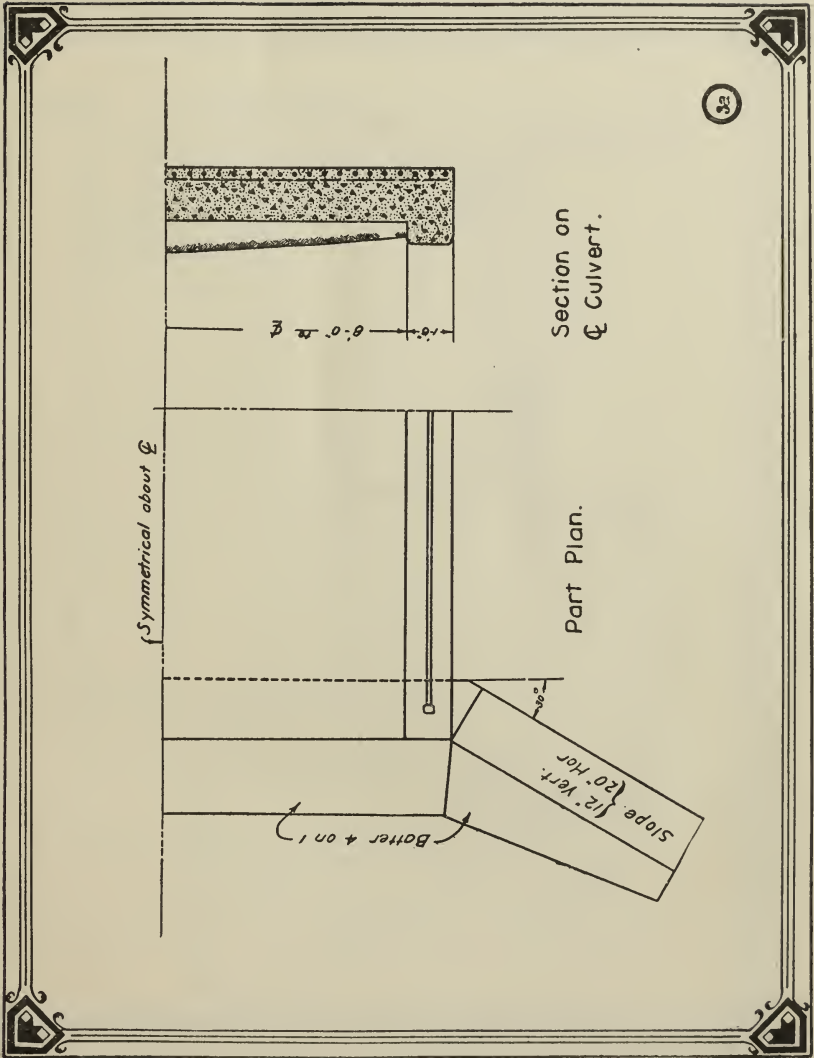


PLATE 3



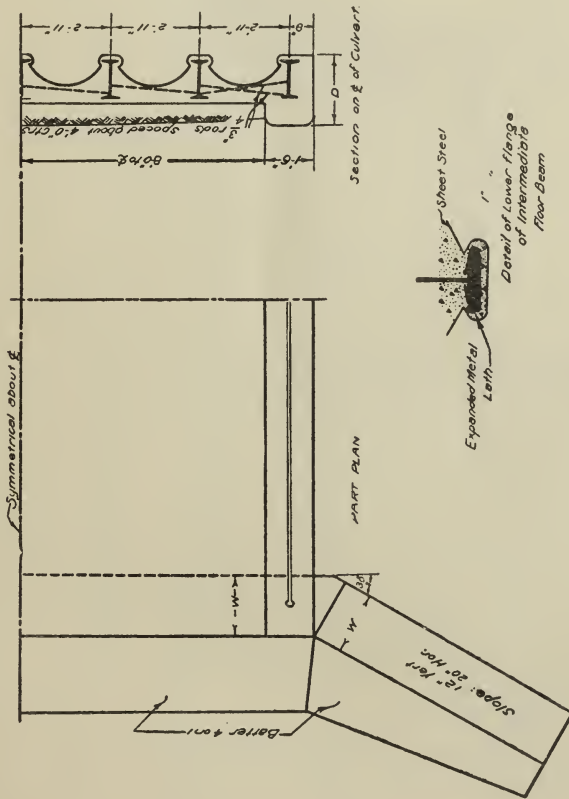


PLATE 4a

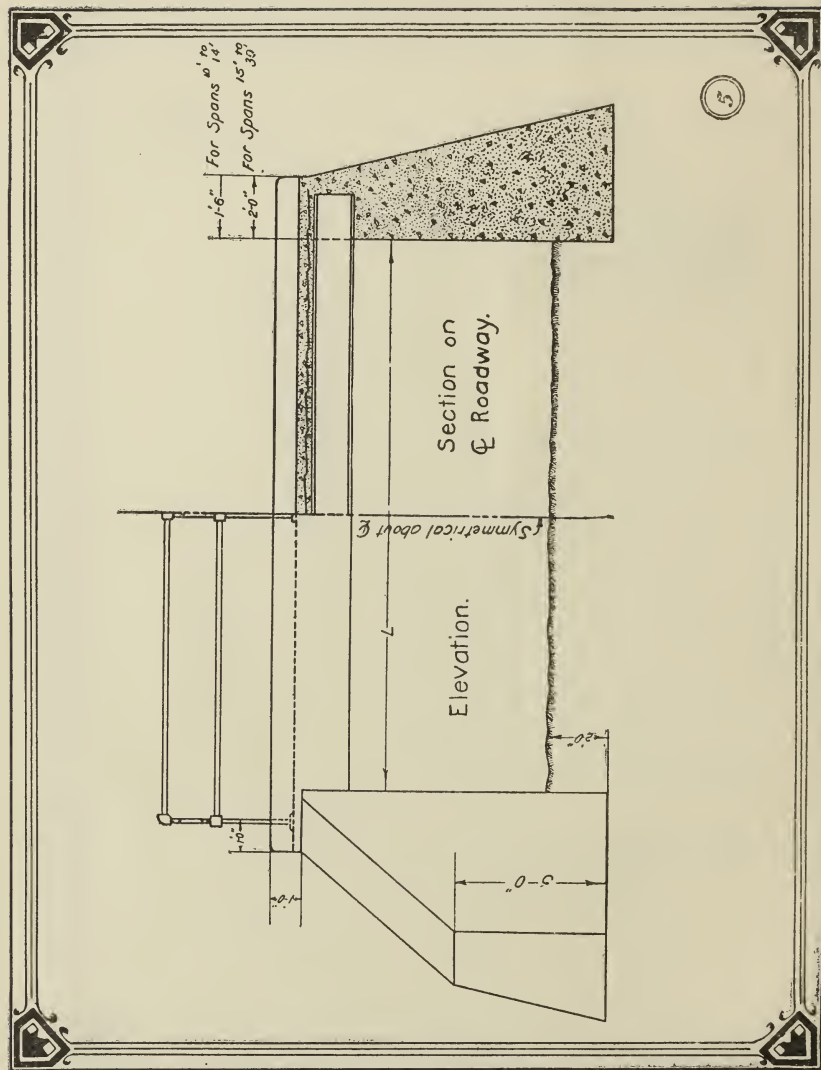
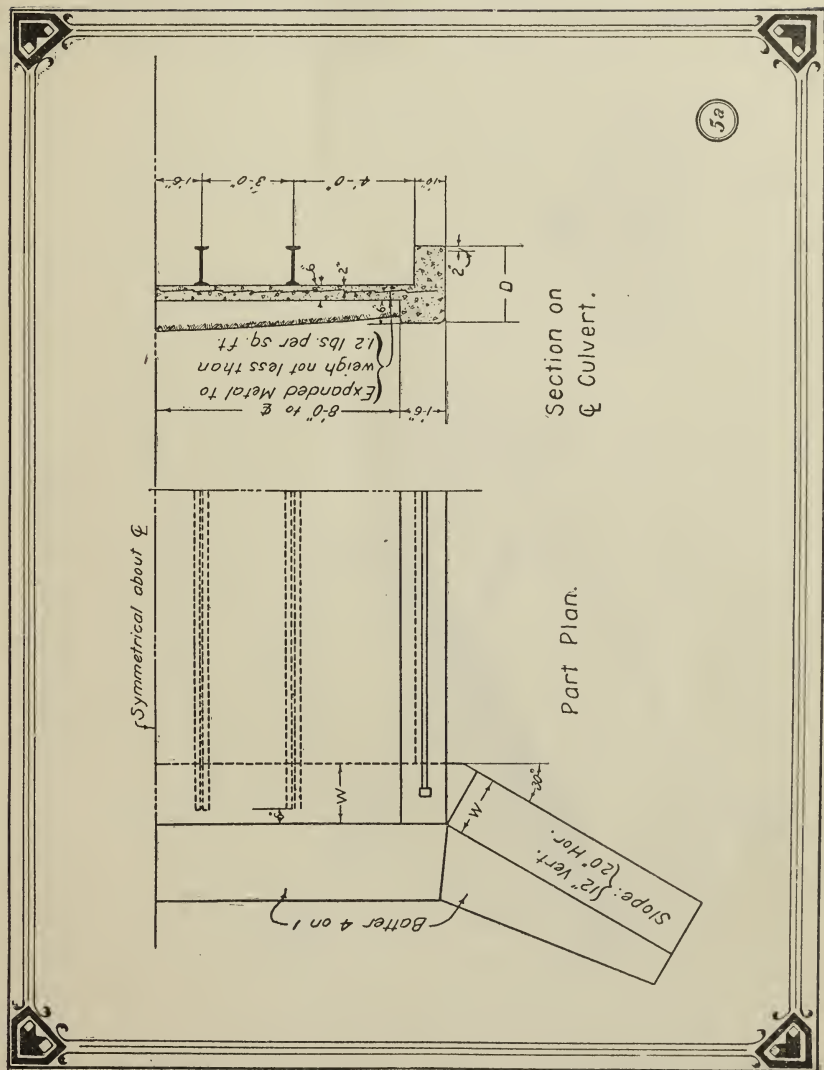
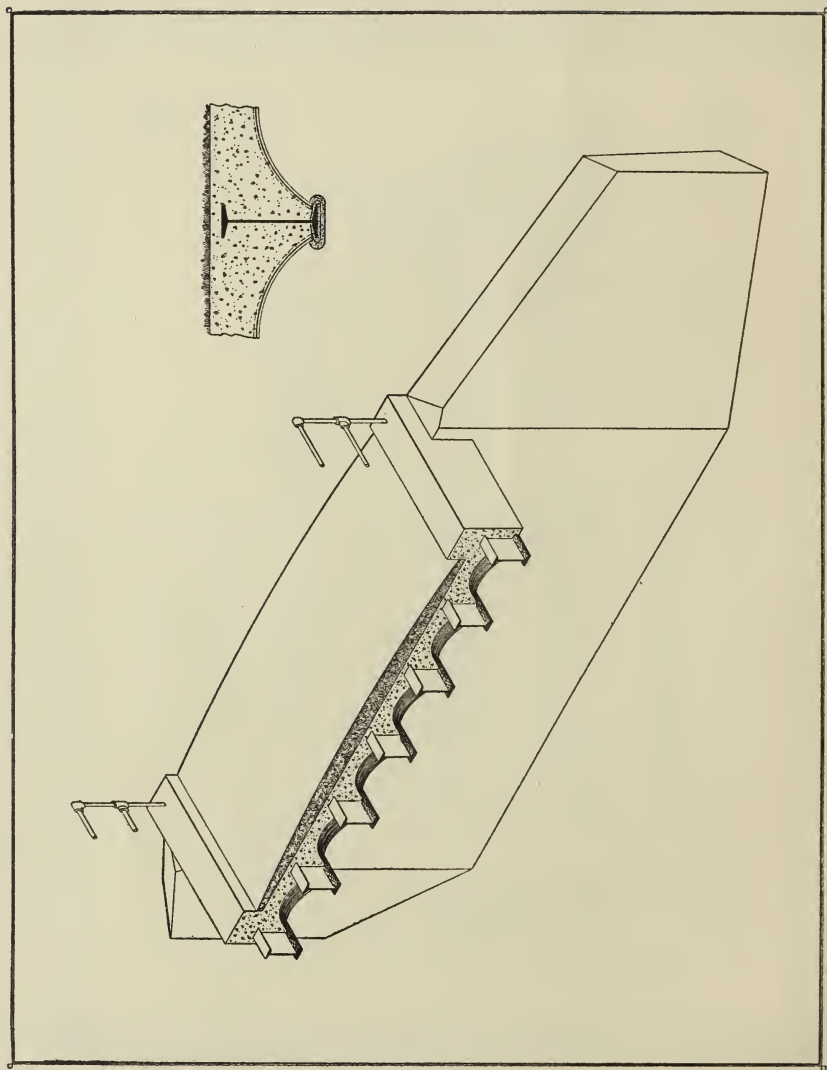


PLATE 5





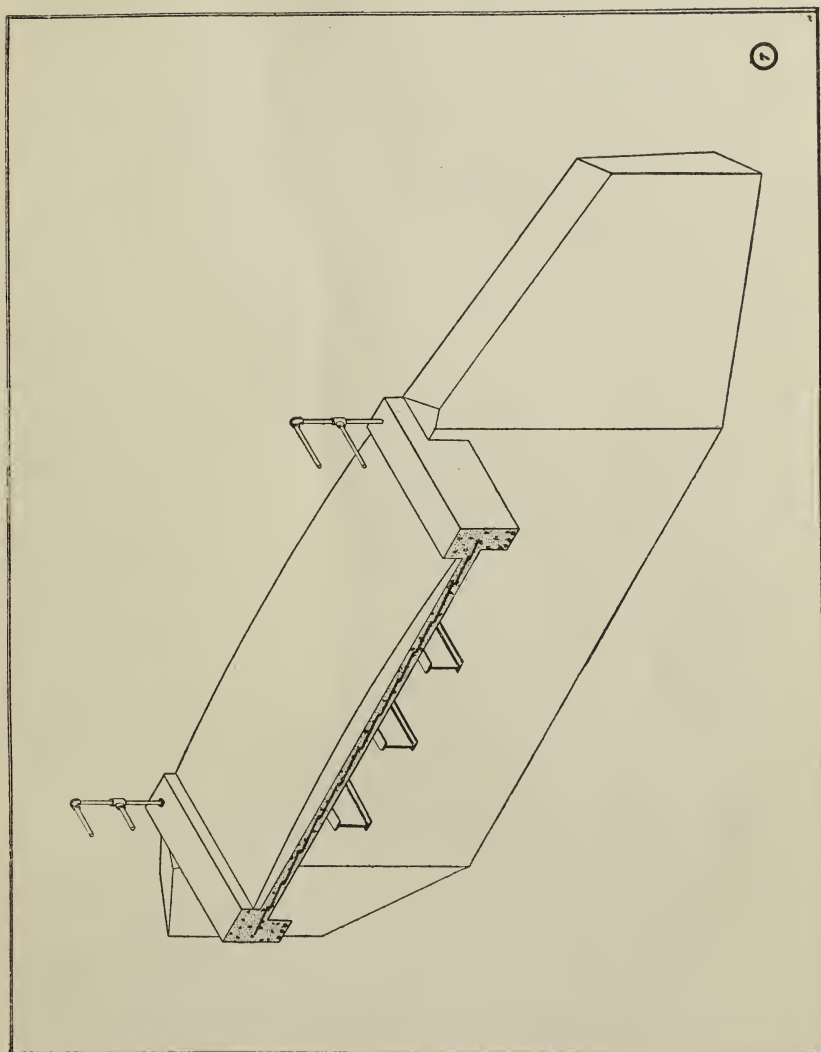


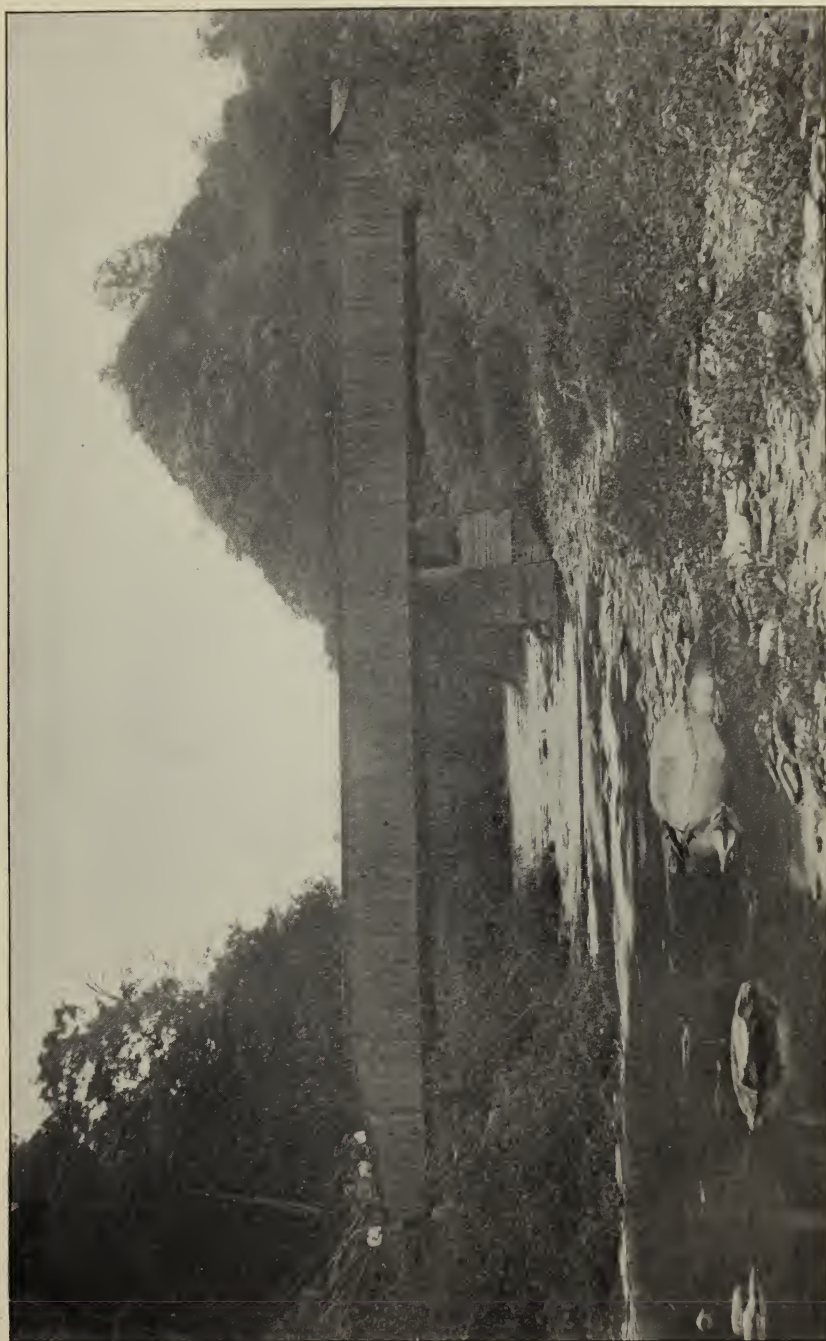
PLATE 7

Provide a mixing board about eight feet wide and ten feet long, formed of smooth boards laid close, or of sheet iron. Never mix mortar or concrete on the ground.

To make concrete, use one part loose Portland cement, two and one-half parts sand, and five parts broken stone or gravel, not exceeding one inch in size, all being measured in loose bulk. If stone from a crusher is used screen out the fragments larger than one inch in size, and use for the concrete all the products less than one inch, allowing the dust to act instead of one part sand. If gravel is to be used and is not clean, it should be washed in running water until the water runs away clear. Thoroughly mix the cement and the proper amount of sand before wetting; then add enough water to make a thin mortar, but not thin enough to run; dampen the broken stone or gravel and then spread the proper quantity of the broken stone dampened, or gravel, upon the mixing-board, in a four-inch layer, and cover it with the mortar; mix thoroughly by turning with shovels, until all fragments are coated with the mortar. The mass thus formed should flatten and quake when put into a wheelbarrow or pail, but should not be fluid.

When gravel concrete is used the ingredients should be separated and mixed in the above proportions unless written permission is obtained from the county superintendent.

After the excavation has been made, the first thing to do is to lay out the outside line of the culvert and build a box inclosure by means of stakes and boards shown by the drawing, Plate 1. The forms shown in the sketch are composed of one-inch boards, planed on one side, and two-by-fours. The boards should be braced in the manner shown to prevent bulging. The forms for the wings may be the forms for the side walls extended. The excavation for the head walls should extend from eighteen to thirty inches below the bottom of the culvert to make a cut-off wall. This cut-off wall at each end prevents water from washing under the culvert and destroying it by undermining. After the outside forms are constructed, grade the bottom so that it will have a fall of not less than three inches in a culvert which is to be twenty feet long. The inside of forms should be planed smooth and should be covered with crude oil or with soft soap. Then mix the concrete and put in the bottom of the culvert for the whole length, being careful to keep the grade uniform.



Wooden bridge which was replaced by the concrete arch shown in cut facing page 44.

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Concrete should not cost more than \$5 or \$6 per cubic yard, depending on the character of materials and convenience of the same to the work. The quantities of concrete for box culverts are about as follows:

2 x 2 x 20 feet long will contain 8.5 cubic yards.
 2 x 3 x 20 feet long will contain 9.8 cubic yards.
 3 x 3 x 20 feet long will contain 12.8 cubic yards.

For each additional foot in length add to the above quantities:

For 2 x 2 = .33 cubic yards.
 For 2 x 3 = .38 cubic yards.
 For 3 x 3 = .45 cubic yards.

The department has lately gotten out standard designs of culverts of spans varying from two feet to thirty feet. (See Plates 3, 4, 5, 6 and 7.) For longer spans special designs will be furnished upon request.

Where it is more convenient to use corrugated iron arches for forms, they may be used as shown in the detail for that design. In both styles of designs the iron, it will be seen, is completely protected from the elements. Culverts of this design are, as far as we know, absolutely permanent structures, the only part of which that can possibly become worn or rusted being the railing. As the structures are heavy great care should be exercised in properly preparing the foundations. In case the culvert goes in a location where there is apt to be considerable scour, the waterways should be paved with heavy stones and the down stream ends should be rip-rapped.

The dimensions of culverts of the type shown on Plate 2 are as follows:

SPAN.	Thickness of slab.	Thickness of abut.	Expanded metal.	Size of rods.	C. to C of rods.
2'-0".....	6"	12"	3" No. 6 Heavy	.....	.....
3'-0".....	6"	12"	3" No. 6 Heavy	.....	.....
4'-0".....	6"	12"	3" No. 6 Heavy	.....	.....
5'-0".....	8"	12"	3" No. 6 Heavy	.....	.....
6'-0".....	9"	15"	3" No. 6 Heavy	.....	.....
7'-0".....	10"	15"	3" No. 6 Heavy	.....	.....
8'-0".....	12"	15"	3" No. 6 Heavy	.....	.....
9'-0".....	12"	15"	.....	.39 sq. in.	5 "
10'-0".....	12"	15"	.....	.39 sq. in.	4 1/2 "

The dimensions of culverts of the type shown on Plate 3 are as follows:

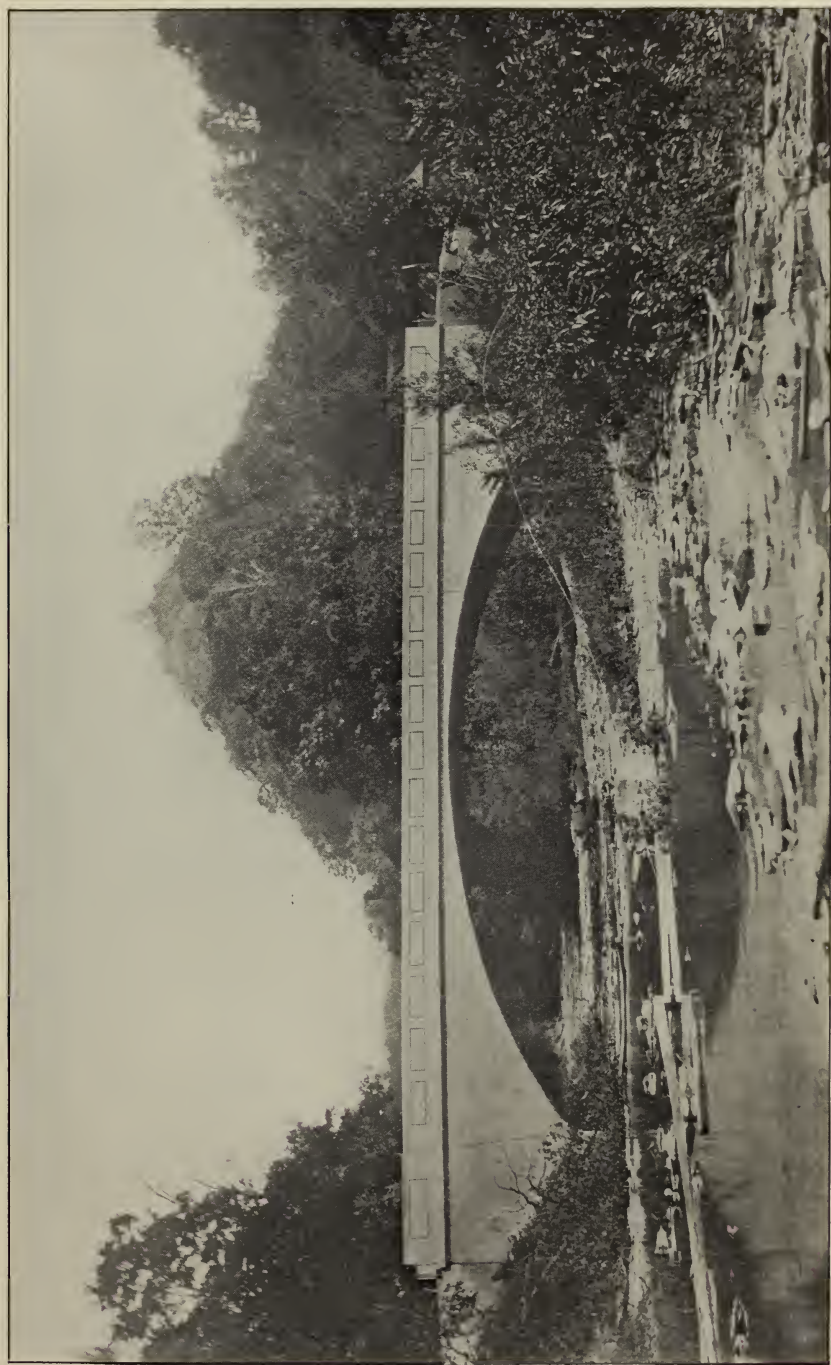
CLEAR SPAN.	Thickness of slab.	Cross section of bars.	Weight per ft. of bars.	Length of each bar.	Distance C. to C. of bars.
10 feet.....	12"	.56"	1.91 lbs.	13'-0"	6½"
11 feet.....	12"	.56"	1.91 lbs.	14'-0"	6 "
12 feet.....	13"	.56"	1.91 lbs.	15'-0"	6 "
13 feet.....	13"	.56"	1.91 lbs.	16'-0"	5½"
14 feet.....	14"	.56"	1.91 lbs.	17'-0"	5½"
15 feet.....	14"	.56"	1.91 lbs.	19'-0"	5 "
16 feet.....	15"	.56"	1.91 lbs.	20'-0"	4½"
17 feet.....	15"	.56"	1.91 lbs.	21'-0"	4½"
18 feet.....	16"	.56"	1.91 lbs.	22'-0"	4½"
19 feet.....	17"	.56"	1.91 lbs.	23'-0"	4 "
20 feet.....	18"	.77"	2.6 lbs.	24'-0"	5 "
21 feet.....	18"	.77"	2.6 lbs.	25'-0"	5 "
22 feet.....	19"	.77"	2.6 lbs.	26'-0"	5 "
23 feet.....	19"	.77"	2.6 lbs.	27'-0"	5 "
24 feet.....	20"	.77"	2.6 lbs.	28'-0"	4½"
25 feet.....	21"	1.00"	3.4 lbs.	29'-0"	6 "
26 feet.....	21"	1.00"	3.4 lbs.	30'-0"	5½"
27 feet.....	22"	1.00"	3.4 lbs.	31'-0"	5½"
28 feet.....	23"	1.00"	3.4 lbs.	32'-0"	5 "
29 feet.....	23"	1.00"	3.4 lbs.	33'-0"	5 "
30 feet.....	24"	1.00"	3.4 lbs.	34'-0"	5 "

The dimensions of the culverts of the type shown on Plate 4 are as follows:

CLEAR HEIGHT NOT OVER 12'-0'.

CLEAR SPAN " L."	Size of I-beams.	Length of each beam.	Rise of arches.	Expanded metal required.	Depth " D."	Width " W."
10 feet.....	12"-31½ lbs.	12'-0"	8"	56 sq. ft.	2'-0"	18"
11 feet.....	12"-31½ lbs.	13'-0"	8"	62 sq. ft.	2'-0"	18"
12 feet.....	12"-31½ lbs.	14'-0"	8"	67 sq. ft.	2'-0"	18"
13 feet.....	12"-31½ lbs.	15'-0"	8"	91 sq. ft.	2'-0"	18"
14 feet.....	12"-35 lbs.	17'-0"	8"	98 sq. ft.	2'-0"	24"
15 feet.....	15"-42 lbs.	18'-0"	10"	105 sq. ft.	2'-3"	24"
16 feet.....	15"-42 lbs.	19'-0"	10"	112 sq. ft.	2'-3"	24"
17 feet.....	15"-42 lbs.	20'-0"	10"	119 sq. ft.	2'-3"	24"
18 feet.....	15"-42 lbs.	21'-0"	10"	126 sq. ft.	2'-3"	24"
19 feet.....	15"-42 lbs.	22'-0"	10"	133 sq. ft.	2'-3"	24"
20 feet.....	18"-55 lbs.	23'-0"	12"	140 sq. ft.	2'-6"	24"
21 feet.....	18"-55 lbs.	24'-0"	12"	147 sq. ft.	2'-6"	24"
22 feet.....	18"-55 lbs.	25'-0"	12"	154 sq. ft.	2'-6"	24"
23 feet.....	18"-55 lbs.	26'-0"	12"	161 sq. ft.	2'-6"	24"
24 feet.....	18"-55 lbs.	27'-0"	12"	168 sq. ft.	2'-6"	24"
25 feet.....	18"-55 lbs.	28'-0"	12"	175 sq. ft.	2'-6"	24"
26 feet.....	18"-60 lbs.	29'-0"	12"	182 sq. ft.	2'-6"	24"
27 feet.....	20"-65 lbs.	30'-0"	13"	195 sq. ft.	2'-8"	24"
28 feet.....	20"-65 lbs.	31'-0"	13"	203 sq. ft.	2'-8"	24"
29 feet.....	20"-75 lbs.	32'-0"	13"	210 sq. ft.	2'-8"	24"
30 feet.....	20"-75 lbs.	33'-0"	13"	218 sq. ft.	2'-8"	24"

The town superintendent may obtain from the county superintendent, or the Commission, free of charge, standard plans for culverts and small bridges.



Concrete arch replacing wooden structure shown in cut facing page 42.

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Concrete Slab.

Stone flagging or concrete slabs, supported by steel I beams, rails or re-inforced concrete girders must be used in preference to plank for culverts having less than eight to ten feet span, and in the construction of culverts and bridges great care must be taken to provide a culvert of sufficient strength to support safely a ten-ton steam roller.

Concrete slabs can be made in the following manner, viz.: Provide a mixing-board about eight feet wide and ten feet long, formed of smooth boards laid close, or of sheet iron. Never mix mortar or concrete on the ground. Make an open box, six inches deep, two or three feet wide and from three and one-half to four and one-half feet in length as the span may require. Whenever the necessary width of opening exceeds ten feet, I beams of steel must be used to span it, and these must be placed two or three feet between centers, this distance varying inversely with the width, and the slabs made to span this distance between the center of the beams. Provide expanded metal of gauge No. 4, formed of steel 3/16 inch thick, 5/16 inch wide in meshes six inches wide, and twelve inches long, and weighing 1 1/10 pounds per square foot, and cut into sheets of sufficient size to nearly cover the proposed slab, being careful that the 12-inch mesh crosses the span.

Mix the concrete in the manner prescribed in an earlier portion of this article, using a sufficient amount of water to cause the mass to flatten and quake when put into a wheelbarrow or pail, but not so much as to make it fluid.

Spread over the bottom of the box a coat of mortar followed by a coat of fine concrete, making a layer one and one-quarter inches thick, after ramming, and upon this lay the sheet of expanded metal and embed it in the soft concrete by ramming, using care that the 12-inch length of mesh lies with length of the span of the slab when it shall be put on the culvert. Fill the box with concrete working the stones from the side with a trowel, so that the edge will have a smooth surface, ram thoroughly until no stones nor gravel can be seen, and until the wet mortar comes to the top, and also smooth the top with a trowel. Keep this covered from the sun and wet it night and morning for a week, until hardened, when it can easily be taken from the box. After it has set for an hour, scratch the word "Top" in large letters in the soft mortar, so that it may surely be thus laid on the work, as the slab will have little strength if laid with the embedded metal

at the top of the slab. Do not make concrete in freezing weather, or else make it where it can be protected from the frost. Such slabs can be made in winter, by making them in a warm place free from frost, and storing them for use until they are set and hard. The culvert when completed, and after the slab or flagstone is placed thereon, should be low enough so that it can be covered by the road material which should not be less than six inches in depth, and if the culvert is properly built there will be no expense for maintenance, as in the case with a plank top. No culvert should be built less than two feet in width so that it may be easily kept free from obstructions at all times. The bottom of all culverts should be given sufficient fall to send the water out of them immediately. The bottoms and spaces three or four feet wide, at the inlets and the outlets, should be paved to prevent undermining, using cobble or flat stones set on edge and close together with the joints filled with crushed stone or fine gravel. The side ditches should also be similarly paved where there are long grades of 5 per cent. and over.

I Beams on Culverts and Short Span Bridges.

For culverts and short span bridges having a span of not more than thirty feet, it is usually most economical to use the steel I beams, covered with flagstone or concrete slabs, as shown on Plate 5.

The following table shows the sizes and weights of I beams which should be used to insure safety in culverts, when crossed by a ten-ton road roller. The lengths given are the over-all lengths, allowing eighteen inches at each end for support. The space between and outside the I beams on top of the side walls should be filled with concrete or masonry laid in cement mortar. If care is taken to fill with mortar the joints between the flagstones or concrete slabs, the I beams will last many years longer than they will if the drainage from the road is allowed to wet and rust them.

Highway Bridges.

Bridge construction has passed through numerous stages. One of the oldest types of a permanent bridge is the stone arch, brought to perfection by the Romans. Bridges of this character were built in Europe many years ago, and are still in use. Stone

TABLE SHOWING SIZES AND QUANTITIES FOR FLAT SLAB CULVERT TOPS SUPPORTED ON STEEL BEAMS. SEE PLATE 5.

CLEAR SPAN.	Size of beams.	Size of rods.	"D."	WEIGHT.		Expanded metal.	Concrete.
				Bars.	Beams.		
10 feet.....	12" x 12'-0"	0.39 sq. in. x 12'-6"	2'-3"	105 lbs.	1,512 lbs.	260 sq. ft.	6.62 cu. yds.
11 feet.....	12" x 13'-0"	0.56 sq. in. x 14'-0"	2'-3"	169 lbs.	1,638 lbs.	280 sq. ft.	7.13 cu. yds.
12 feet.....	12" x 14'-0"	0.56 sq. in. x 15'-0"	2'-3"	181 lbs.	1,764 lbs.	300 sq. ft.	7.64 cu. yds.
13 feet.....	12" x 15'-0"	0.77 sq. in. x 16'-6"	2'-3"	271 lbs.	1,890 lbs.	320 sq. ft.	8.15 cu. yds.
14 feet.....	12" x 16'-0"	0.77 sq. in. x 17'-6"	2'-3"	287 lbs.	2,016 lbs.	340 sq. ft.	8.66 cu. yds.
15 feet.....	15" x 16'-0"	0.77 sq. in. x 18'-6"	2'-6"	303 lbs.	3,024 lbs.	380 sq. ft.	10.03 cu. yds.
16 feet.....	15" x 18'-0"	0.77 sq. in. x 19'-6"	2'-6"	319 lbs.	3,192 lbs.	400 sq. ft.	10.56 cu. yds.
17 feet.....	15" x 20'-0"	1.0 sq. in. x 21'-0"	2'-6"	449 lbs.	3,360 lbs.	420 sq. ft.	11.07 cu. yds.
18 feet.....	15" x 21'-0"	1.0 sq. in. x 22'-0"	2'-6"	473 lbs.	3,528 lbs.	440 sq. ft.	12.15 cu. yds.
19 feet.....	15" x 22'-0"	1.0 sq. in. x 23'-0"	2'-6"	494 lbs.	3,696 lbs.	450 sq. ft.	12.67 cu. yds.
20 feet.....	15" x 23'-0"	1.0 sq. in. x 24'-0"	2'-6"	515 lbs.	3,864 lbs.	470 sq. ft.	13.65 cu. yds.
21 feet.....	18" x 24'-0"	1.0 sq. in. x 25'-0"	2'-9"	536 lbs.	5,280 lbs.	490 sq. ft.	14.20 cu. yds.
22 feet.....	18" x 25'-0"	1.0 sq. in. x 26'-0"	2'-9"	557 lbs.	5,500 lbs.	510 sq. ft.	14.75 cu. yds.
23 feet.....	18" x 26'-0"	1.56 sq. in. x 27'-7"	2'-9"	924 lbs.	5,720 lbs.	530 sq. ft.	15.30 cu. yds.
24 feet.....	18" x 27'-0"	1.56 sq. in. x 28'-7"	2'-9"	959 lbs.	5,940 lbs.	550 sq. ft.	15.85 cu. yds.
25 feet.....	18" x 28'-0"	1.56 sq. in. x 29'-7"	2'-9"	991 lbs.	6,160 lbs.	570 sq. ft.	16.40 cu. yds.
26 feet.....	18" x 29'-0"	1.56 sq. in. x 30'-7"	2'-9"	1,024 lbs.	6,380 lbs.	590 sq. ft.	17.32 cu. yds.
27 feet.....	20" x 30'-0"	1.56 sq. in. x 31'-8"	2'-11"	1,061 lbs.	7,800 lbs.	610 sq. ft.	17.39 cu. yds.
28 feet.....	20" x 31'-0"	1.56 sq. in. x 32'-8"	2'-11"	1,094 lbs.	8,060 lbs.	630 sq. ft.	18.45 cu. yds.
29 feet.....	20" x 32'-0"	1.56 sq. in. x 33'-8"	2'-11"	1,129 lbs.	8,320 lbs.	650 sq. ft.	19.0 cu. yds.
30 feet.....	20" x 33'-0"	1.56 sq. in. x 34'-8"	2'-11"	1,163 lbs.	8,580 lbs.	670 sq. ft.	

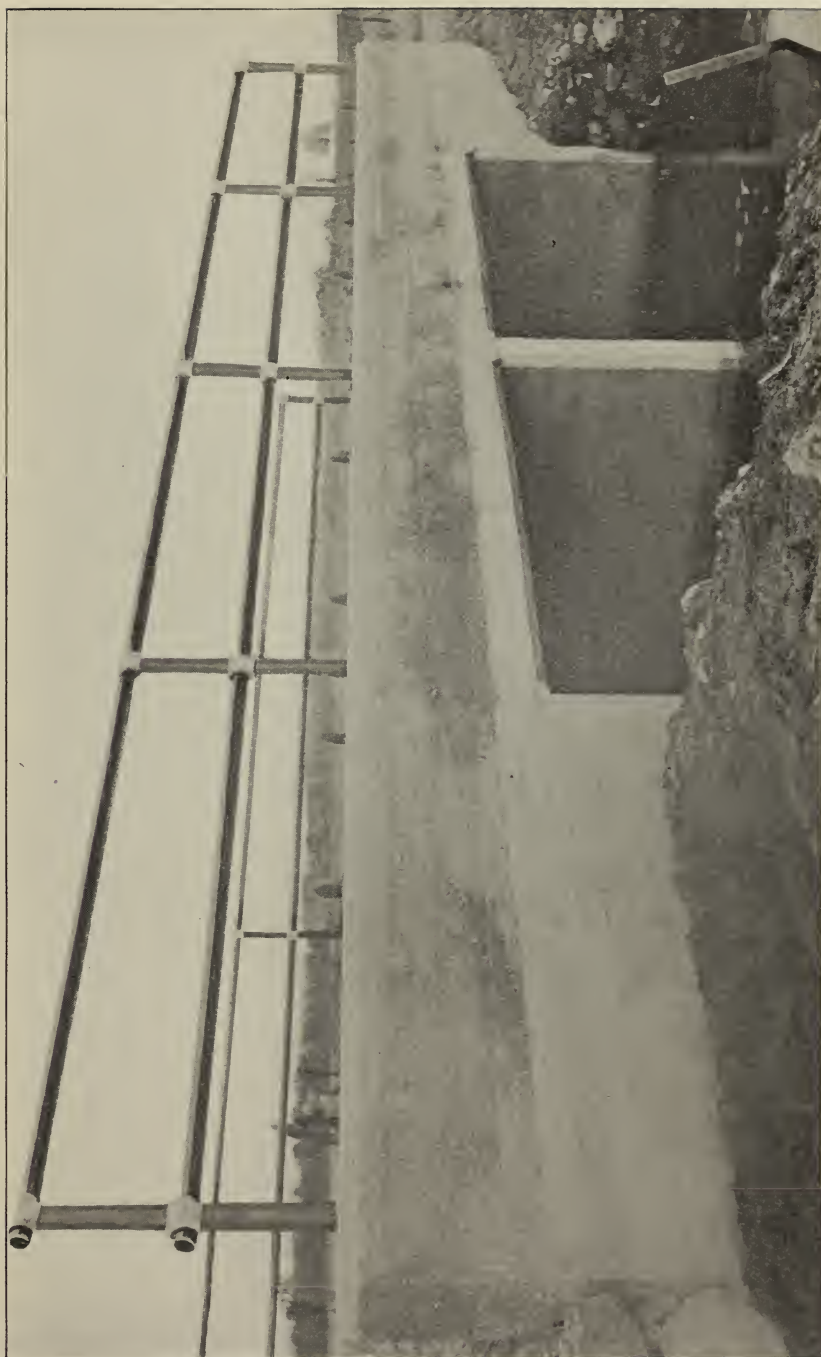
Estimate should include railing in each case.

arches are still being built in some localities in this State where stone entirely suitable for the purpose may be easily obtained, and several arches have been erected during the past season at an expense which was less than that for which any other form of permanent structure could have been built. England was the first to use metal for bridge purposes and metal has been used to a great extent in this country. Cast iron and wrought iron have held a prominent place in such work but have been displaced by the use of structural steel.

The principles involved in the construction of bridges, whether in the case of wooden trusses, steel viaducts, stone or concrete bridges, are being more and more carefully understood. Culverts and short-span bridges, having a span of less than thirty feet, generally, can be constructed most economically by the use of concrete and reinforced concrete in conjunction with the use of I beams to hold the concrete slabs. Longer spans should, perhaps, be constructed with steel superstructure and concrete bottoms or concrete flooring.

Bridges constructed of timber, or timber in the use of bridges, is temporary, the life of an ordinary wooden bridge rarely exceeding ten years and repairs are needed every year. Steel bridges, it is true, require attention; and to maintain the same, painting, tightening and putting in new rivets must be done frequently, and in a comprehensive manner. The life of a steel bridge has not yet been fully determined as they really have not been erected long enough to determine their life. At any rate it depends upon the quality and care of the bridge.

In the preparation of the plans, specifications and estimates by the county superintendent, or in the approval of the same, too much care and good judgment cannot be exercised in seeing that bridges of this character are of sufficient strength, and also of good design and are properly finished and erected in matters of detail. A poor steel bridge is dear at any price. Ordinarily members of the town board, town superintendents, and even county superintendents cannot be expected to judge as to the quality of the material of which such bridges are constructed, but free of cost to each town the Highway Law provides that proper engineering advice may be had from the Commission provided the county superintendent is not a practical civil engineer. A practical civil engineer should be able to advise as to the proper form and material for abutments and to provide working plans therefor and to also furnish plans and specifications for the superstructure,



MONROE COUNTY.—Town of Rush. Concrete bridge built by town superintendent, 2 spans, 9 feet each; thickness of middle pier 12 inches; width of roadway 18 feet, parapet 35 feet, cost complete \$426.25.

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which necessarily will create a great saving to the towns of the State in this respect alone. If plans and specifications are prepared by the manufacturers, as is sometimes the case, and submitted to the district or county superintendent for approval, the district or county superintendent, without cost, can secure the advice of the Commission as to the dimensions and special requirements of the bridge to be constructed. The weak spots of many bridges are in the connections. When a bridge is being erected the county superintendent can see that the specifications are being carried out, and should he need assistance in this respect, he can readily secure the same without cost to his locality.

It will be noticed that because of the fact that plans for bridges must be approved by proper authorities that not only good construction, but good design and beauty must be elements. Much attention should be paid to the appearance of structures of this character, but it is very easy to run to the opposite extreme with tawdry results. It is a very short step from ornamental construction to constructed ornamentations giving little and very unsatisfactory substitutes for severe simplicity. It should be remembered that they will last for many years and their appearance is therefore a matter deserving due attention in construction.

Concrete is a material which lends itself to easy manipulation and which can be used by moulding it into graceful outline. It is essential to the preservation of steel bridges that they may be kept properly painted. Rust is their chief destructive agency. District and county superintendents and town superintendents must bear in mind that if fully protected from rust, steel bridges would practically last forever. Bridges should be painted at least every five years and oftener in some instances. Before painting steel, the surface should be absolutely free from rust, scale, moisture and grease. Rust must be removed by scraping with steel scrapers, and scale by the use of stiff wire brushes. Rust left beneath the paint will cause it to flake off and then the metal is slowly exposed to the destroying action of air and moisture.

In painting bridges the face of the steel trusses facing the approaches to the bridge should be painted white to a height of five to seven feet, so as to aid the traveling public in crossing the bridge without accident after night fall. The material commonly used for painting bridges is red lead mixed with linseed oil. Bridge floors of plank usually wear out in from two to four years and are a constant matter of expense for renewal and repair.

With the increasing price of lumber it is only a matter of time when concrete or some other material must be used for such purposes. All steel bridges now being built should be strong enough to support concrete floors as it is cheaper and more satisfactory to provide for this additional weight than to reinforce the bridge after construction. Concrete adds to the dead weight but this is partly compensated for by the extent to which it distributes the live load.

With plank flooring, the weight of every vehicle passing over it is transmitted to its individual members causing a constant jar which is destructive. With concrete the weight is spread over a greater area of the structure, therefore the injury is less. It will be seen that if the floors of bridges were constructed of concrete it would not be so necessary to restrict the speed of vehicles.

Strength and durability depend upon the proper proportions of all the parts. If doubt exists as to the efficiency of any plan, it may be submitted to the county superintendent, or the commission who will carefully examine and report upon it without charge therefor.

A clear width of sixteen feet between steel work is generally recommended except for spans above 150 feet, for which the clear width should preferably be eighteen feet, except for villages and towns where the width must be determined by the local conditions.

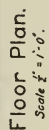
While the stone or concrete arch is the most durable of all crossings, there are many localities where it cannot be used. In soft or yielding soils the bridges of truss or girder type are better as one or both abutments can move considerably without destroying the action of the bridge while the same movement in the foundations of an arch would cause the latter to collapse.

Town authorities should bear in mind that a bridge which will safely carry the loads going over an ordinary dirt road may not carry the loads going over the same road after improvement. The carrying capacity of the road having been greatly increased, the bridge should be renewed or strengthened in like manner.

Town superintendents must at all times avoid adding concrete or heavy paved floors to bridges that were designed and erected with plank flooring. The weight of a plank floor is seldom over seventeen pounds per square foot while the bridge generally is designed for a live load of from 60 to 100 pounds per square foot in addition to the dead load. It can readily be seen that if a floor of concrete, weighing, with a light wearing surface, about 100 pounds per square foot, be added to light trusses, the entire



DELAWARE COUNTY.—Town of Hancock. Stone arch on Sands creek, built by town superintendent. Span 26 feet, roadway 18 feet. Cost complete with iron railing, \$462.



Note: All material - Medium Open Hearth Steel
Rivets $\frac{3}{4}$ " dia. unless otherwise noted.

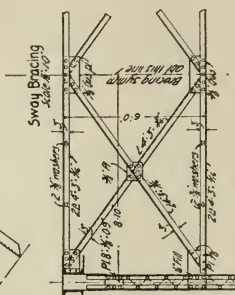
Where field rivets are substituted for shop rivets, the full strength shown shall be developed.

Tops of all stringers and floor beams to be heavily coated with tar before any wood is placed thereon



For Apron details see Section 'AA'

TRACE BY 2-5-61
TRACED BY 2-5-61
RECEIVED BY



STANDARD HIGHWAY BRIDGE

SPAN 150 FEET
ROADWAY 18 FEET

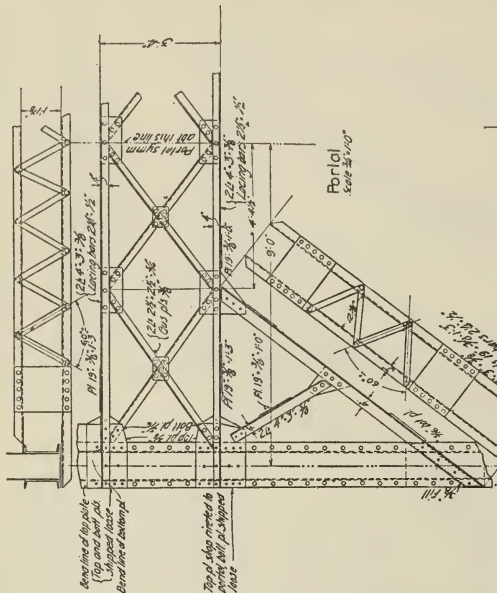
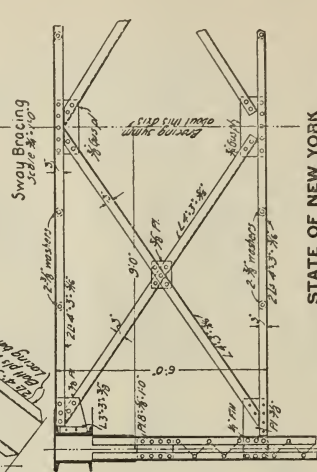
Sheet 2 of 2.

PLATE 9

Section AA.

Scale $\frac{1}{4}'' = 1'-0''$
This design to be used for spans of $145'-0''$ to $155'-0''$ using a uniform panel length.

APPROVED Aug 9. 1909
Thomas Allen
COMMISSIONER

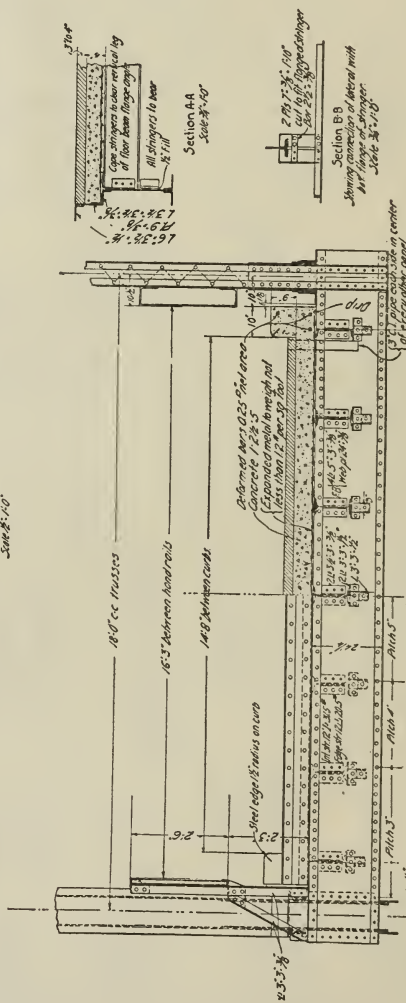
Part Plan
Scale: 1:0

STATE OF NEW YORK
DEPARTMENT OF HIGHWAYS
STANDARD HIGHWAY BRIDGE
WITH
CONCRETE FLOOR

Span 150 ft.
Roadway 16 ft.
Capacity 15 ton Roller
85 lbs. per sq. ft.

APPROVED SP 30 509

Submitted for approval: *[Signature]*
Monroe Allen COMMISSIONER



Half End View

strength of the trusses will be used in sustaining the floor, and the carrying capacity of the bridge will be reduced to practically nothing. If it is desired to put on a concrete floor, it would be better for the town superintendent to get advice on the subject from the county superintendent.

When it becomes necessary to temporarily strengthen an iron bridge for the passage of some heavy load, it is best to put bents under the center of each panel half way between the floor beams. This will have the effect of doubling the number of floor beams.

Plates 8 and 9 show truss and floor plans of Standard truss bridge of 150 feet span, 16 feet roadway, capacity, 10-ton roller.

Plates 10 and 11 show truss and floor plan of Standard truss bridge of 150 feet span, 16 feet roadway, capacity, 15-ton roller.

Bridges of standard design prepared under the direction of the Highway Commission cost about as follows:

For bridges of sixteen feet clear roadway with a capacity of eighty-five pounds per square foot uniform load and a loaded ten-ton road roller for concentrated load, cost about as follows, delivered, erected, and painted, with wood floors in place ready for traffic:

	Per foot.	Weight of steel per foot.
50 feet span	\$24 00	500 lbs.
75 feet to 125 feet span.....	30 00	618 lbs.
150 feet span	37 00	833 lbs.
<hr/>		<hr/>

For bridges of 16 feet clear roadway, with a capacity of eighty-five pounds per square foot uniform load and a fifteen-ton road roller for concentrated load, cost about as follows, delivered, erected, and painted, with concrete floors in place ready for traffic:

	Per foot.	Weight of steel per foot.
45 feet span	\$28 00	688 lbs.
125 feet span	37 00	818 lbs.
150 feet span	42 00	1017 lbs.
<hr/>		<hr/>

Foundation work is not included in the above prices. These prices are for bridges near railroad stations on through lines. If

the bridges are at some distance from railroad stations a charge for hauling should be added. If the bridges are near the line of some branch railroad, the freight rate of that road should be considered.

Stock Plans.

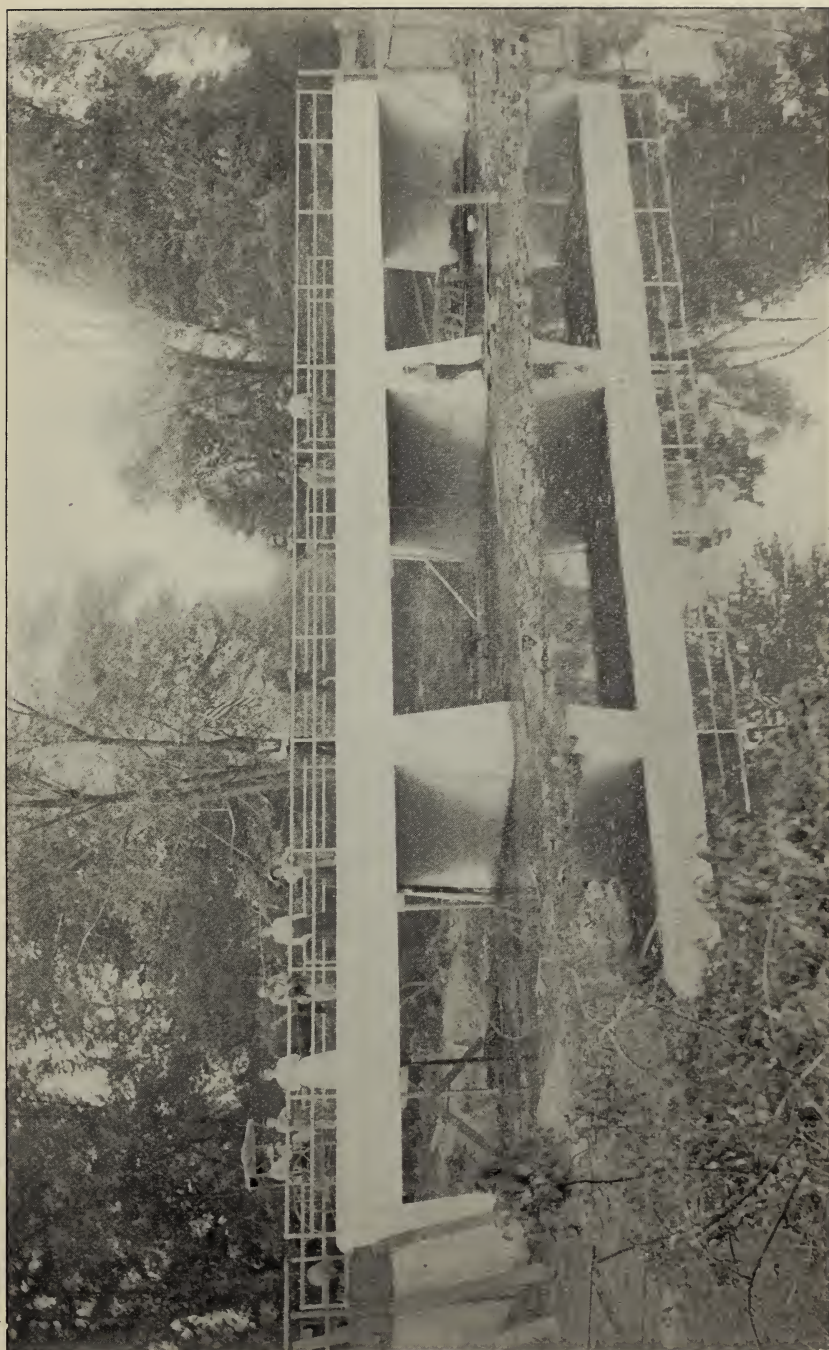
Plans have been prepared by the Commission covering all lengths of span between thirty feet and fifty feet, of three capacities, viz.: ten-ton, thirteen-ton and fifteen-ton rollers respectively, with roadways of sixteen feet and eighteen feet width. Copies of any of these plans will be forwarded to any county superintendent or town superintendent upon application. Bridges in accordance with these plans may be erected by any bridge or machinery company as they embody only such features as may be readily dealt with by any concern now engaged in the manufacture of this class of work. The purpose of the department in preparing these plans is that there may be constantly on hand and at the disposal of all officials in any way connected with the erection of town bridges, a series of plans, some one of which will fit any condition of traffic within the lengths mentioned and which may be supplied without delay to any one applying therefor. This relieves the town and county officials of any necessity of going to any private concern for plans of any kind, and supplies those upon which they may go to anyone engaged in the business and ask for construction bids.

Inspection.

The matter of inspection of steel trusses and the foundations therefor during construction is one which has been almost entirely neglected, and the results of such neglect are, in very many instances, only too apparent. It is believed that a mill and shop inspection of all materials entering into the make-up of steel trusses should be made in all cases.

There are in localities where structural steel is made several firms whose business it is to inspect steel as it comes from the rolls. The material that is inspected and passed as satisfactory is used for the bridges and buildings of discriminating purchasers. The material which is not inspected, or is inspected and rejected, finds its way to careless or indifferent purchasers.

This inspection of material at the mills or furnaces, and the inspection of workmanship at the shops, adds but very little to the cost of a bridge, and being done by companies who make this work a specialty, it is no trouble whatever to the purchaser.



Concrete bridge built by town superintendent, Dutchess County, 83 feet long, clear spans, 25 feet each, 18 feet roadway. Cost, \$2,160 complete, including wing walls and railing.

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A bridge that is inspected both as to material and workmanship is more satisfactory in every way than one which is not inspected. Purchasers should insist at all times upon bridge material being such as has passed the inspection requirement of New York State, and should be furnished with certified copies of the results of the inspections.

All bridge material should be measured immediately upon delivery, and such measurement should be compared with the sizes called for on the general drawing upon which the contract was based. If there is any difference between the sections called for and the sections delivered, no payment should be made until the proper sized members are delivered.

If, for instance, a certain member is to be made up of angles $\frac{3}{8}$ inch thick, it would be a very simple matter to substitute angles $\frac{5}{16}$ inch thick. This cutting of section, if done consistently, would have the effect of reducing the strength and weight of the trusses about 17 per cent., which would represent material paid for but not delivered.

Inspection of foundation work should be continuous through all stages of its construction, as a failure or partial failure here means failure for the entire work. It is earnestly recommended that all town and county officers connected with the erection of bridges give this matter their particular attention to the end that such a system of inspection may be instituted as to insure the certainty that all parts of the work shall be properly performed and all materials be such as were called for in the design.

Inspection of Wooden Bridges.

The timber of wooden truss bridges should be inspected by boring with a $\frac{3}{4}$ -inch auger into the main members. This boring should be done in such a way that rain water cannot enter the hole, i. e., the hole should enter the timber from the under side. The holes should afterward be plugged with wood. The iron hangers should be equally strained. This condition can be determined by striking adjacent rods with a piece of hard wood or iron and noting the tone or pitch. The rod having the lower tone can be tightened until the pitch is the same as that of the rod having the higher tone. In case a nut is rusted fast, and cannot be moved by a wrench, it can be very readily loosened by heating it quickly with a gasolene torch. Care should be exercised to avoid heating the rod as the idea is to expand the nut and thus loosen it.

If a wooden bridge is in such good condition that it will probably not be renewed for some years, the covering (roof or weather boarding), should be very carefully watched as a heavy wooden bridge might last for years if properly covered, while a small leak in the roof, if neglected, might be the cause of the bridge decaying in a few seasons. Splices and keys in the bottom chord should be watched to see that there is no crushing of the wood back of the splice bolts. The floor beams should be large enough to get a bearing over the entire width of the bottom chord and the planking should be laid with openings to clear the deck of water and dirt. The planking in all cases should be spiked to the floor joist to prevent undue vibration and noise. The mud sills and corbels should be renewed as fast as decay becomes apparent. There should be an apron of wood or stone between the bridge deck and the roadway dirt. This apron should be renewed from time to time as the necessity becomes apparent. If the trusses become weak they should be made safe in the following manner: There should be placed on the ground under the bridge, or in the bed of the stream, a mud sill of wood about ten inches square and about three feet longer than the width of the bridge. A corresponding cap of like dimensions should be attached under the bridge and in contact with the trusses at a panel point. Two vertical pieces about 8 by 8 or 10 by 10 and a little longer than the distance between the mud sill and cap should be provided and should be placed by blocking the upper ends under the cap piece and then driving the lower ends until they are perfectly rigid. The lower ends should be retained by blocks, spiked to the mud sills. These trestle bents should always be put up in pairs at an equal number of panel points from each end.

A Few Suggestions.

Do not approve plans for arches unless you know by personal inspection that the foundations are of unyielding material.

Do not fail to provide in your annual estimate for the painting of all steel and iron bridges in your town.

Do not put new wooden floors on top of old floors. Paint the joist and then put on the new floor.

Use red lead and oil below the floor line and white lead and oil above the floor line.

Do not allow the use of bolts for connections of bridges. Rivets only should be used.

Do not allow the use of timber in foundations unless the water surface in dry seasons is high enough to keep the wood constantly covered.

Remember, that if a bridge appears to need paint above the floor, the conditions below the floor are much worse.

When in doubt upon any point get advice from the Highway Commission.

ORGANIZATION OF FORCES.

Town superintendents are required by law to organize their forces prior to the beginning of highway work. This organization should be perfected late in the winter or early in the spring. At the time of the organization of forces for highway work the town superintendent should examine all the machinery, tools and implements for road work and if they are not in proper repair and ready for use he should cause repairs to be made to the same at once. It is presumed that in the estimate of the town superintendent the attention of the town board has been called to the requirements of the town as regards the purchase of new machinery, tools and implements in order that the highway work may be properly carried on. If for any reason, it is discovered that proper provision has not been made, the town superintendent should at once confer with the supervisor in order that steps may be taken to provide proper implements to the end that the highway work may be promptly commenced as soon as weather conditions will permit in the spring.

Parts for road machines, plows and other implements, such as scraper blades, plow points, whiffletrees and other parts which are liable to break or wear, should be purchased and kept on hand at all times. Town superintendents should make arrangements for steam power, contract for teams, traction engines and steam rollers, and also provide for the necessary labor to carry on the road work of the town.

Section 47, subdivision 3, provides that the town superintendent shall divide the town into as many sections as may be necessary for the proper maintenance and repair of the highways thereof and the opening of highways obstructed by snow. In some towns of the State it is not necessary to divide the town into sections or parts as the mileage is so small all of the highway work can be performed under the personal supervision and direction of the town superintendent, but in the larger towns with a greater mileage, or where the mileage is so large that the work cannot be



TIoga COUNTY.—Town of Nichols. Concrete arch over Park creek, built under direction of town superintendent, span 26 feet; width of roadway 18 feet, extreme length 40 feet, cost \$600.

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carried on under the personal supervision of the town superintendent, it is absolutely necessary that the provisions of the law in this respect be complied with, the town being divided into sections and a foreman appointed to take charge of the gang which is to work in each section. The supervisors of highways and the county superintendents will be required to report to this department any neglect on the part of town superintendents in complying with this provision of law. In many instances during the year 1910 it was found that town superintendents had not divided their towns into districts or sections, comprehensive work had not been performed, unexpended balances remained in the hands of the supervisor and the taxpayers of the town as well as the users of the public thoroughfares were dissatisfied. In all instances where the highway, bridge and miscellaneous report or the supervisor's books show an excessive balance remaining on hand, the town superintendents will be called upon to explain why they have failed to perform their duty in this respect.

Subdivision 4 of the same section provides that the town superintendent shall employ such persons with teams and implements as may be necessary for the proper maintenance and repair of highways and bridges, etc., and that he shall file a list of the names of persons so employed, with the compensation paid to each, and the capacity in which they are to be employed, in the office of the town clerk. This provision of law is for the specific purpose of compelling the town superintendent to organize his forces early in the season for the highway work of the ensuing year. It has been noted by the Commission that in those cases in which labor or teams were irregularly employed, generally speaking the money expended therefor has been wasted or worse. Many town superintendents during the past year have been extremely negligent in complying with the law in this respect and their own past experience is the best argument that can be advanced showing the necessity for a strict compliance therewith.

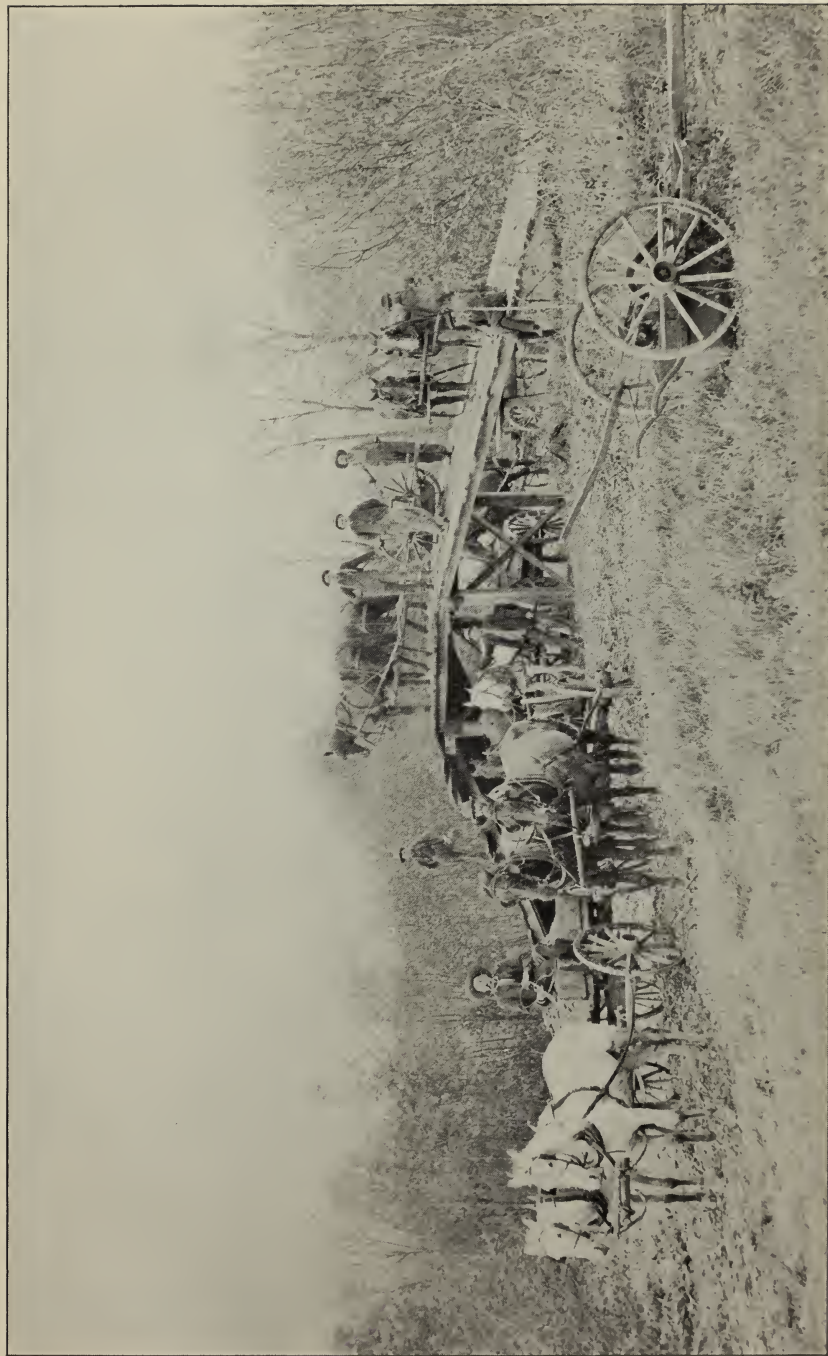
The statement has been made in some towns in the State that it is impossible to procure proper help to carry on the highway work. This provision of law relative to the filing of a list with the town clerk is for the express purpose of impressing upon the minds of town superintendents the fact that provision must be made *in advance* for help and no argument can be advanced by any town officers which will convince the Commission that proper help for the highway work cannot be secured for continuous service if effort to secure the same is made at the proper time, just

as the farmer or the mechanic or the manufacturer can secure his help in order to carry on his work. By following out the provision of law in this respect no trouble will be experienced in procuring labor and in prosecuting the work in accordance with law and the rules and regulations of this department.

If the town superintendent appoints a town patrolman, in accordance with the suggestions relative to this question on another page, this should be done when the rest of the organization is perfected.

After the force is organized and the work about to begin the town superintendent should notify the men employed that they will be paid semi-monthly, thereby establishing pay days on the first and fifteenth of each month, or thereabouts, and after establishing these pay days the town superintendent should prepare the orders on or about said dates, making the orders payable to each individual and following the directions which are printed on the first inside cover of the order book prepared therefor.

With the exception of the employment of a town patrolman, the town superintendent must not employ labor, teams or machinery by the day as the account book which is furnished the supervisor provides that the accounts shall be kept by the hour and the orders drawn by the town superintendent must be by the hour and not by the day, and all such orders must indicate the road on which the work is performed.



SCHUYLER COUNTY.—Town of Cayuta. A cheap method of handling gravel. Loading platform is put together with bolts and may be easily dismantled for moving. The cost of loading the gravel as shown in this view was seven cents per cubic yard.

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UNIFORM SYSTEM OF TOWN ACCOUNTS.

Under the provisions of the highway law and by rules and regulations prescribed by the Commission, a uniform system of town accounts has been provided to be kept by the various town officials in such manner as to enable the Commission to annually tabulate reports therefrom and also in such a manner as to enable the citizens of any town who are interested to satisfy themselves at any time as regards the proper expenditure of town highway funds for these purposes. The law also provides for a system of audit and these accounts are regularly audited by the district supervisor in charge of each district. With extremely few exceptions these accounts have been properly kept and proper reports have been made.

In providing for a uniform system of accounts for the various towns it was necessary for the Commission as provided by law to supply the supervisors with proper account books and the town superintendent with order books, and also blank forms for the purpose of complying with the various provisions of the highway law.

In carrying out this system it has necessitated much detail work and a full corps of office assistants, and, as before stated, the town officials generally are entitled to the thanks of the Commission for their promptness in complying with requests and in promptly furnishing this much desired information. The few exceptions to the rule are such that they are hardly worth commenting on, and in all such cases prompt steps have been taken to compel such delinquent or careless authorities to properly perform their duties.

ROAD MACHINES.

The general introduction of road machines in highway work in the early eighties marked a beginning of a considerable change in methods and in actual results accomplished in the highway work of this State as then conducted under the so called Labor System. The advantages to be gained by the use of these machines were very quickly recognized and developments along this line were rapid. For a time the improvement in general conditions was very marked. With their continued use under the conditions then prevailing and in the succeeding years there has been an almost universal tendency to use the road machine in such manner and at such times and in such places as to produce results which have been extremely unsatisfactory.

It is an opinion held by very many among those who have given the subject most careful attention, that as applied to the five years preceding 1908 the results throughout the State in general have been such that this use has resulted in an actual deterioration in the condition of the roads; that in effect not by the use, but by the abuse, of the road machine a very large percentage of the money expended therefor has been worse than wasted, as the roads were left in worse condition through their use than they would have been had they not been touched at all. There is no implement used in the repair or maintenance of highways which when properly used results in a greater saving of labor than the road machine and there is no implement by means of which money may be wasted any faster and bad conditions more quickly produced than by their misuse.

Recognizing the importance of the foregoing facts a line of instruction for the use of the road machine by the town superintendent was formulated and the system as laid down by the bureau has been very generally followed throughout the State and with extremely satisfactory results, both as regards conditions of roads attained and economical expenditure of the funds for that purpose. The principal use of the road machine is in widening and turnpiking and as applied to this class of work a

road machine should never be used except suitable preparation therefor has previously been made, either by fall or early spring plowing, to the end that the sod and organic matter which must necessarily form a part of the new road bed may be thoroughly disintegrated before using. The roots of grass and weeds begin their growth very quickly after the frost goes out in the spring and with delay the mass of roots become tougher and more dense, consequently harder to break up and smooth out when placed in the road. When this growth is allowed to proceed into the late spring or summer, as has been the rule rather than the exception in the past, the result has been that when this mass was hauled into the road by the road machine there resulted either a cloddy, uneven surface or a great expense by hand labor in reducing the same. This is entirely avoided by following the practice as above described of plowing those portions of the sides of the road which are sodded over with an ordinary land plow and giving that sod time to disintegrate before using. The only exception allowable in this practice is in cases where vegetable growth at the side of the road does not exist or is very light, also in side hill cuts and in widening or grading where the amount of sod is relatively insignificant as compared to the mass of material to be moved.

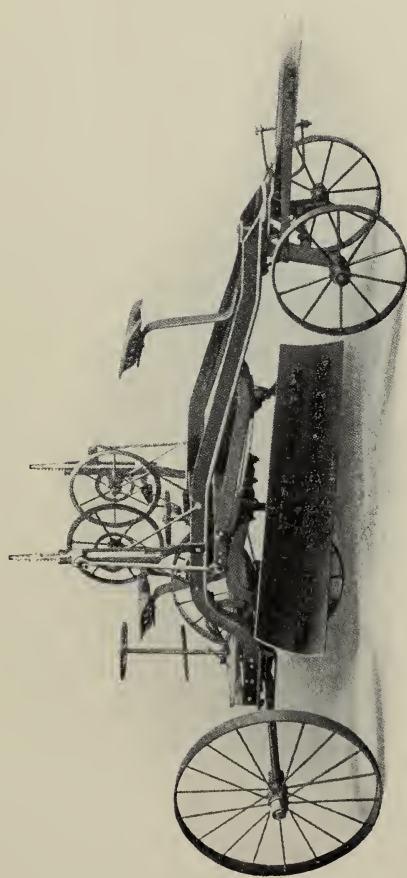
Vast amounts of money and work have been practically wasted in the results accomplished by the use of road machines in cases where, although details of the work itself were fairly well done, the result as a whole was nullified by the fact that no intelligent plan was made before the beginning of the work, no alignment or grades established, the work being carried on in a sort of guess-twice-and-divide-by-two manner, following all the old crooks and turns, leaving knolls as high or higher than they were found, no attempt to fill the depressions, etc., etc. In every case before any piece of road machine work is begun the ground should be gone over thoroughly by the town superintendent, a plan formulated applying to the conditions as found, ditch lines established by stakes driven at intervals frequent enough to insure the alignment established thereby being followed, the width necessary for the location being taken into consideration in establishing these lines, cuts and fills if any determined on before a furrow is turned. In every case of work of this character what is commonly known as a "trimmer gang" should in every instance follow the road machine gang closely. This equipment should consist of a good team and wagon with a dump box, driver and not

less than two laborers equipped with rakes, shovels, stone forks, picks and crow bars, smoothing up, removing and carrying away stones and other refuse immediately following the road machine not a week after, nor two days after nor one day after, but *immediately*.

With plans thus made and carefully followed, results are obtained which are permanent. A piece of work thus done does not have to be done at the same expense the following year which has been the case in the greater part of the road machine work as done under the old careless haphazard method.

A large amount of money is also annually wasted by the use of an unnecessary amount of power in a large portion of the work as has heretofore been done. In the past instances are so common as to be the rule in which a road machine gang is started out with a full equipment of men and three teams to do what amounts to merely rut scraping which should be done by one man and one team. Machines of light build, designed for use with one team or at the most three horses, have recently been put upon the market which in many localities serve a very useful purpose and result in a considerable saving. The following is a picture of such a machine. In cases where deep ruts have been allowed to form, also in low lying clayey locations where a road that previously had been properly widened and crowned, has become flattened, these machines are useful in filling deep ruts and restoring the crown of the road and in the great majority of cases at least one of these should be owned and used for this purpose by each town.

In every case of road machine work the aim of the town superintendent should be to so plan and execute the work that as applied to that case with the finish of the job the road machine work is ended for a long period if not forever. His aim should be to put that section in such a condition that thereafter it might be maintained by honing, or at the most by occasional trips with the light machine shown here, and the expense of the larger amount of power and larger crew forever eliminated.



Light machine designed for use with one team.

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MECHANICAL POWER IN HIGHWAY WORK.

The availability of steam or gasoline traction engines or road rollers for use as power in hauling road machines for grading and scraping is coming to be very generally recognized throughout the State. The feasibility of the use of power tractors was demonstrated in several towns of the State a considerable number of years ago. In one town in particular in which a steam roller has been used for power for the longest term of which we have any accurate record, this roller has been used for sixteen years during which time the expense for labor of horses as power has been so insignificant as to be a negligible quantity and for several years last past no horses at all have been used but a second machine has been purchased and that town now uses two steam rollers for tractive purposes to the entire exclusion of horses, and at this time a little more than one-third of all the towns in the State are equipped with power tractors of some kind. By their use road machine work is done much more cheaply thus resulting in a considerable saving of money, or, where an equal amount of money is expended as was formerly done, a correspondingly greater amount of road is worked.

In addition to the economy of their use the possession of one of these machines by a town, renders the town superintendent comparatively independent as regards the hire of teams, and in localities where team labor is scarce or where team owners by reason of scarcity are inclined to advance prices or "soldier" on the job, being in possession of steam power relieves the town superintendent entirely of this embarrassment.

In heavy work where a job of widening or turnpiking is in progress which involves the moving of a large quantity of earth, experience has shown that this can be accomplished by the use of steam or gasoline power for less than one-half of the cost of the same work when done by horse power. The larger amount moved at each trip, the steadiness with which machines may be kept going, there being no necessity for rests or cooling off or favoring teams on hot days, are the main factors in accomplishing this

saving. Where lighter work is to be done two machines may be drawn at one time by the roller or traction engine and in many cases one trip over the road will suffice to finish the work. A very common sight in towns which are using power is to see a roller or engine hauling two road machines, one on each side of the road, with a harrow trailing behind all, completing the job as they go along.

As between rollers or traction engines for hauling purposes, it is the consensus of opinion among the users of these machines who have had the longest experience, that as applied to the average town highway work the roller is to be preferred. Another reason which it would seem should go far in determining this point with town boards who are considering the matter of purchase, is this: Under the present system of standardizing all highways, in four or at the most, five years, practically the entire mileage of earth roads of the State will be brought to a standard width after which there will be but little use for the traction engine as such, whereas the roller can be used upon any road from the finest macadam to the poorest earth any day in the year to good advantage. There may be a few instances in the State in which owing to peculiar local conditions it is possible that a traction engine might do tractive service equal to that of a roller. There also may be found a few, but it must be very few, towns in which the valuation is so small and the amount of money available for highway purposes so little, that owing to the smaller initial cost it might be possible to purchase a traction engine whereas the price of a roller might be considered prohibitive, but the cases where either of these conditions prevail are so few as to be exceptional.

Section 50 of the Highway Law was designed to aid towns in the purchase of machinery with the idea that many towns might avail themselves of its use and thus be induced to more quickly fall into line in this matter. As a practical illustration of the practical effect of the lease of machinery under the provisions of section 50 let us suppose a case in which a town has usually expended say \$750 for team hire for road machine work. Last year that amount was paid for team labor, a certain amount of road work was done, the money was gone. This year that town leased a roller under the provisions of section 50, paying the lease from the highway fund of which State aid forms a portion. At the conclusion of work a much greater amount of road is worked than had been done the previous season by horses, the money paid for rental really constitutes a payment on the purchase price of



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the roller, consequently this town at the end of this year virtually has its roads and has its money.

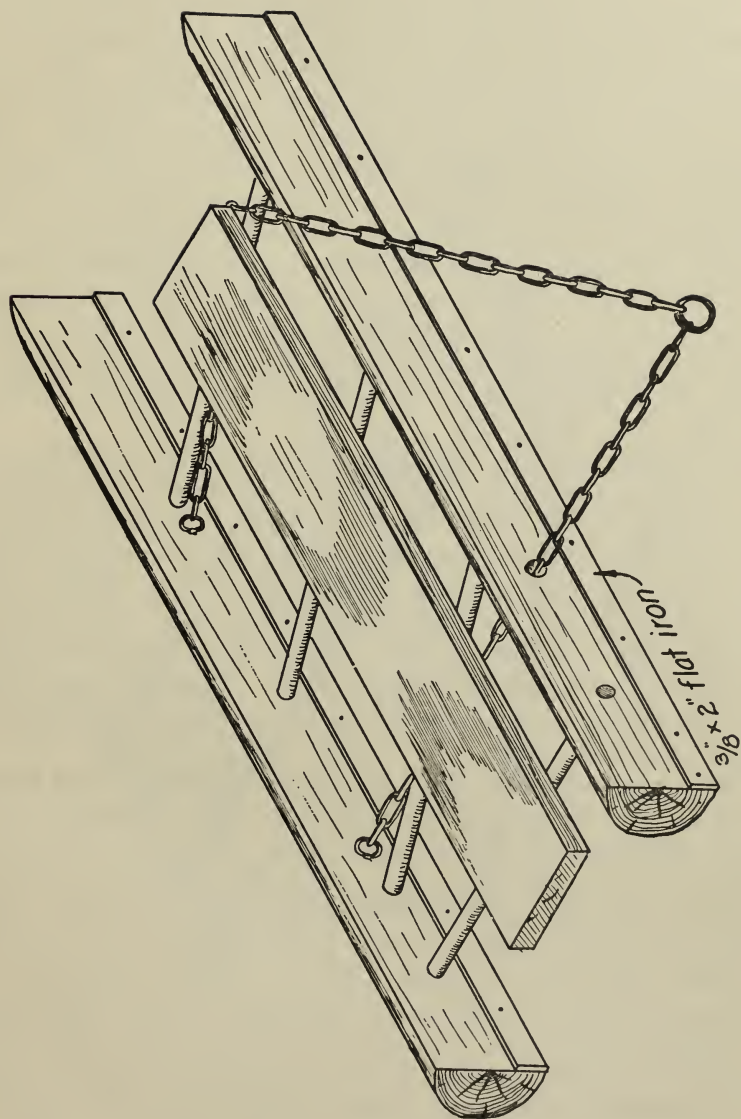
For evidences of the benefits of this system interested parties need only go to any of those towns in which the practice has prevailed for more than four years, to ascertain in what an astonishing degree the benefits constantly increase. Aside from the vastly greater amount of work accomplished for the same money in each year, after the final payment has been made the expense for power is practically eliminated and from that time forward what had previously been a heavy charge for teams and drivers is reduced to the bare expense of running the machine.

ROAD HONING OR RUT SCRAPING.

Much has been written and many theories have been advanced by good roads enthusiasts, not only in the State of New York but in other states as well, as to the proper means of preserving the crown of earth or gravel roads, freeing the same from ruts and depressions, and so forth. Printed matter in various forms, and more particularly in the columns of the press, has been spread broadcast in advocacy of methods of this character. In New York State every imaginable device for this purpose has been tested, and it has been demonstrated that without question the most economical and effective way of preserving the crown of a road and filling ruts and depressions is by systematic road honing.

It is not the purpose of this department to advocate the use of any particular device. Some are better than others, but all are good, and it has been determined to leave the selection of an implement of this character solely to the judgment of the local town authorities. The road hone which has heretofore been known as the split log drag can be constructed very cheaply (see illustration on opposite page), and one of these should be provided for all road hone districts of each town of the State excepting where the use of the same has demonstrated the fact that a more expensive hone is more efficacious and can produce better results at less expense. A hone of this kind is made by splitting a log eight or nine feet in length, and ten or twelve inches in diameter, in halves, which parts are placed about thirty to thirty-six inches apart, with the flat sides to the front so that the sharp edges will act as scrapers, and be fastened in this position by crossbars. These hones can be constructed at a cost of about \$2 or \$3 each.

Two pieces of railroad rail fastened by iron bars in the same manner would make a better and more durable hone. Plank may be placed on crossbars on which the driver may ride, if necessary. To use it the horses are hitched so that the hone shall have a slant of about 45 degrees to the direction of the pull of the team.



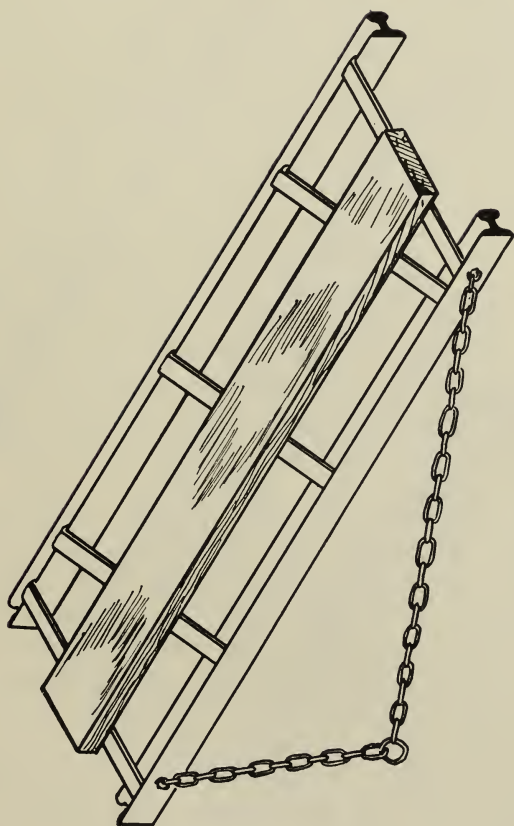
SPLIT LOG HONE

A still better and more effective hone is made of oak plank, four inches thick and ten inches wide, faced with a cutting edge of steel or iron, and beveled on the back. A heavy stick of timber to smooth and compact the road may be fastened to the back by means of chains about thirty inches in length. The hone is hauled by a tongue fastened rigidly to the face of the plank. There are several holes through this half circle spaced at equal distances, and in a position to receive a bolt passing through the tongue. By changing this bolt any desired slant may be given to the scraper.

In the maintenance and care of the ordinary earth road many difficulties are encountered because of the want of a perfect understanding as to how to secure the hardest and most durable surface with the material which is available. It has been found that an ordinary earth road can be transformed into a well rounded, well drained public highway, and maintained at a minimum expense by the use of hones alone for smoothing and crowning the traveled portions.

The highways can be maintained by the use of these hones at an expense of about \$5 to \$6 per mile, at the same time transforming muddy, uneven roads into thoroughfares which are smooth and free from ruts and depressions. Before undertaking to use the hones the road must be thoroughly drained, shaped and crowned by the use of a road machine for grading and scraping. The loose stones, sod and organic matter must be removed and the ditches and culverts made free and clear. Then the hones must be used while the road is wet from recent rains, and should be honed its entire length.

Town superintendents must not permit the use of road hones after the surface has become dry. It is time and money worse than wasted as actual damage results from their use at such times because it is productive of a dusty condition and tends to destroy hardened particles of earth which might otherwise resist wear. The town superintendents should bear constantly in mind the fact that earth must be handled while it contains moisture if a solid earth surface is desired. Consequently the only time when it is proper to use a hone is while the surface of the road is actually wet, or, at least, moist. A town superintendent must be able to comprehend the different treatment required by soils of different character and work each at the state of wetness in which it will work best. A gravel road must be wet at the time of honing, a clay road can not be honed wet, but must be moist.

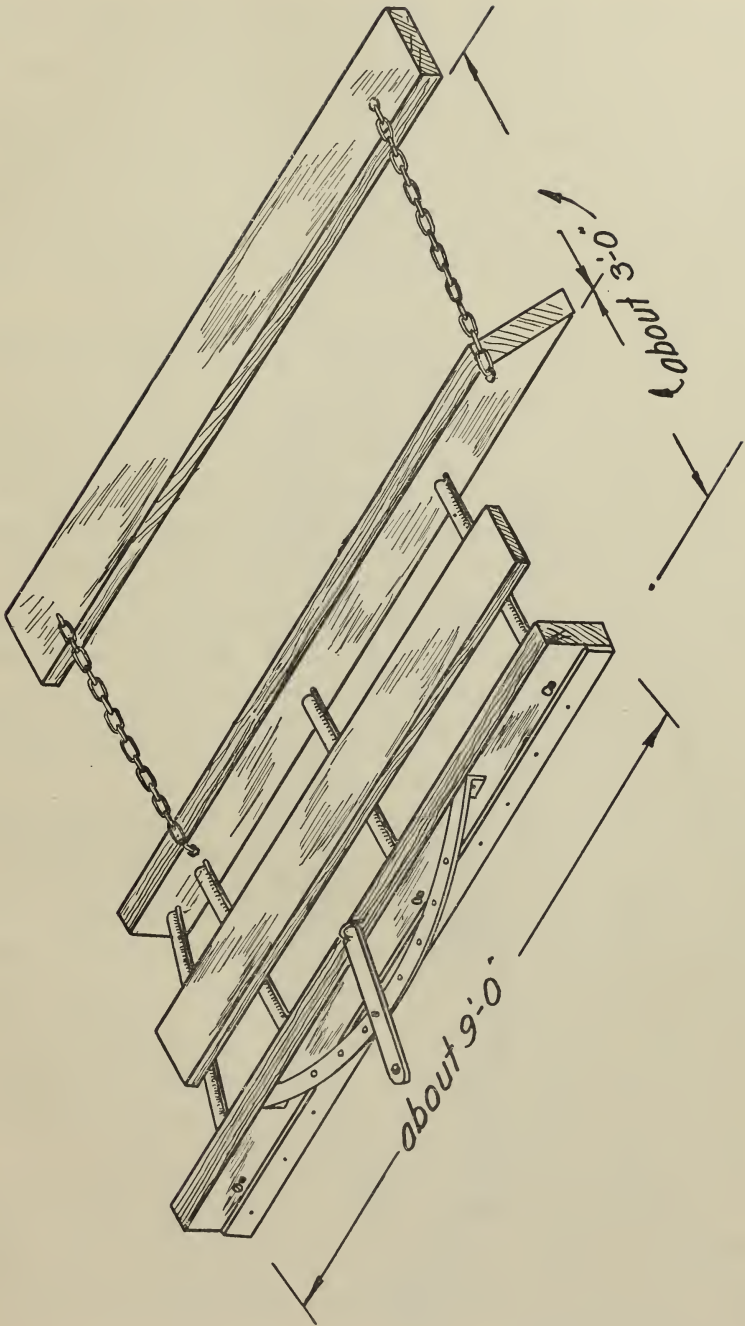


RAILROAD RAIL HONE

It has been very difficult to impress upon the minds of those having care of earth roads the advantage to be derived from the use of hones. It seems that the hardest part is in making the start; the rest is so simple that one will learn by doing it. It will soon be found that the effect will be the smoothing of the road surface, and after this is done the rain and snow water will flow off and encourage the distribution of travel. Teams usually follow the beaten track. This method destroys the old track, and the new one becomes broader and less definite than before.

By using these hones while the road is yet wet or moist it finally becomes a series of practically waterproof layers of puddled earth, and almost imperceptibly the center is elevated to a smooth grade that is not easily affected by the bad weather. One point which must not be lost sight of is the fact that the puddling effect of the hone when used upon a wet surface is fully as important in its results as the smoothing which is accomplished. This implement should be used when parts of the road might seem altogether too wet, but usually it is impossible to commence this work too soon after a rain. While the road is in this condition it is better to drive down one wheel track and back on the other. This will work the earth toward the center of the wagon track, fill the depressions and gradually widen the road as the work progresses.

It will be found that in honing roads, the soil conditions of which are more particularly clay, while the roads are moist that the ruts will be filled with mud or soft earth, which must have proper time to season or harden before the passage of vehicles in the same track or rut can properly be permitted. Town superintendents are therefore urged to provide at convenient places by the side of the road wooden blocks, or hardheads, ranging in size of form six to eight inches or thereabouts, and as they are honing the road on one side to place these blocks, or hardheads, at intervals of 100 to 200 feet along the rut, thus forcing the travel out of the ruts and giving them an opportunity to harden and cure, being careful to direct the employee performing this work of honing to remove these blocks, or hardheads, as soon as practicable and not later than twenty-four hours after honing. This portion of these directions applies only to cases where a road has become deeply rutted. But, generally speaking, if roads are properly standardized as to width and a proper system of honing adopted, deep ruts will not occur and the above statement would not apply.



OAK PLANK HONE

This practice will force the automobile or the heavily laden vehicle to seek passage over other portions of the roadbed which cannot be easily destroyed by once traveling over it. It must be borne in mind that a practice of this character will inflict a temporary inconvenience upon the user of the road, but if a road has been standardized to a width of twenty-four feet between ditches with a crown of one inch to the foot there is no good reason why travel should not be temporarily diverted over certain portions of the road to the end that the most excellent results desired may be attained.

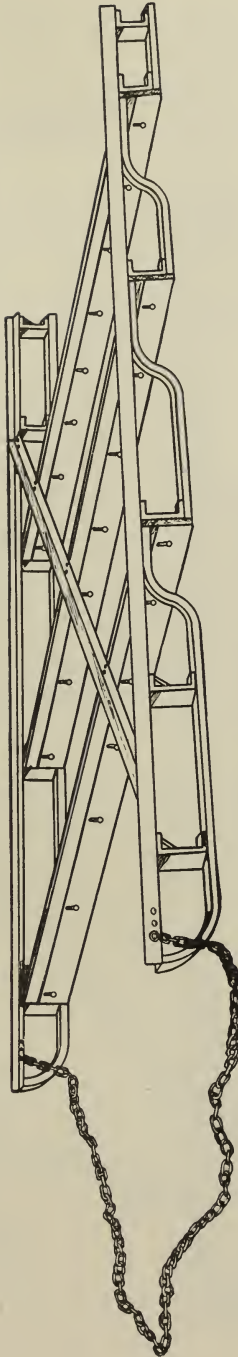
Do not be in a hurry. First, provide yourself with an implement of this kind, and, second, use it only the right time. Remember that the right time is just as the road is drying after a rain, or when it is thawed on top during the winter and spring. If these suggestions are followed it will be noticed that a practically waterproof surface will be produced, and that the road will shed the rain instead of absorbing it, and the reason why the road should be honed following a rain is so that it will be prepared to shed the water that it may receive from the next rain.

Town superintendents should make arrangements with men in different parts of the town to do this work. One man and a team can usually cover from eight to twelve miles in a day.

Town superintendents will find that they cannot keep their roads in a condition demanded by the taxpayers of the town in any other manner at as small an expense.

Town superintendents should appreciate the fact that earth roads will not maintain themselves and remain in good condition. Even though they are properly built they require careful and frequent attention, without which they will rut, forming water-pockets which hold the water when as a matter of fact the water should be carried to the ditches on either side. Roads in which water pockets are allowed to form soon become impassable after heavy rains, and particularly in the spring when the frost goes out of the ground they become very rough. Therefore constant care and attention should be directed toward keeping the road smooth and hard, and in maintaining or increasing the crown.

As heretofore stated, this department does not advocate the use of any particular device, but it is deemed highly proper that a description of other machines or implements which have given satisfaction should be described as far as possible in order that town authorities may act intelligently. The following points are to be borne in mind:



YORK STATE HONE

Make a hone which can be hauled over the road at an angle so that a small amount of the earth is pushed to the center of the road.

Drive a team at a walk, and let the driver ride on the hone.

Begin at one side of the road or wheel track, returning on the opposite side.

Hone the road as soon after every rain as possible but not when the mud is in such a condition as to stick to the hone. Do not hone a road when dry.

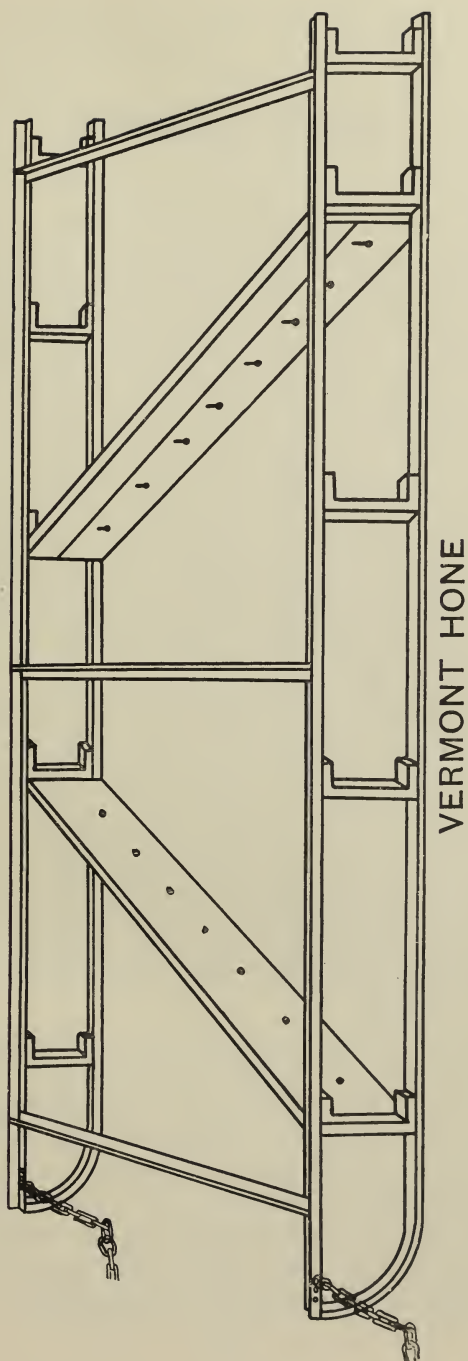
Hone whenever proper at all seasons of the year. If a road is honed immediately before a cool spell it will freeze in a smooth condition.

The width of the traveled way to be maintained by the hone should be from eighteen to twenty-four feet; first hone a little more than the width of a single wheel track, then gradually increase until the desired width is obtained.

Always hone a little earth toward the center of the road until it is raised, forming a crown of at least one inch fall to the foot. If the hone cuts too much, shorten the hitch.

The amount of the earth that the hone will carry along can be very considerably controlled by the driver accordingly. When the roads are first honed after a very muddy spell wagons must drive, if possible, to one side until the roadway has a chance to freeze or dry out.

The best results from honing are obtained by a repeated application. Constant attention is necessary in order to maintain an earth road in its best condition.



TOWN PATROLMAN.

The blank form of agreement which must be entered into by and between the town board and the town superintendent as provided by law for the year 1911, will provide for the setting aside of sufficient funds to enable the town superintendent to appoint a town patrolman. This system has been given a trial in a few towns of the State and has proved so successful that the town authorities throughout the State are particularly requested to adopt the plan for a try out for at least one season.

It has been demonstrated beyond any question of doubt that the patrol system adopted in the maintenance of State and county highways has proved to be exceedingly efficacious, and it is believed that the same system carried into force and effect in the maintenance and care of the main town highways will result in greater economy of maintenance and a better condition of such main highways in each town.

In the directions for the guidance of town superintendents and in the preparation of orders and account books for a uniform system of town accounts the plan has been adopted to employ all labor and teams by the hour and not by the day. An exception to this rule can be made in the appointment and employment of a town patrolman. It has been ascertained that a good man, with the proper equipment consisting of a good horse, and wagon with dump box, or a cart, a one horse plow and the necessary small tools, can be hired according to the locality at prices varying from \$60 to \$75 per month.

At the time of the appointment of the patrolman by the town superintendent he should be given to understand that he is to give his entire time to the work from the time of the appointment in the spring till the closing of the season in the fall, and that his pay is to be by the month and not by the day or hour; that he is to give his particular attention to such main roads as may be designated by the town superintendent; that it shall be his duty on such roads to keep clean the ditches, open culverts, remove loose stone from the beaten track of the highways, fill depressions

and repair approaches to bridges and culverts, and to make repairs to culverts (not bridges), in accordance with the directions of the town superintendent, and should be given to understand that his particular attention and services are required on these highways immediately following heavy storms and during continuous rains, as there is no other time when defects and water-pockets can be so promptly discovered and proper remedies applied.

The particular attention of the town authorities is directed to the fact that the town patrolman, if appointed, is not to be attached to, or become a part of, any other town highway working force, but that it would be perfectly proper and the town superintendent is urged to, whenever in his judgment it seems wise, assign to the patrolman the services of a helper, such helper to be paid by the hour and not by the day. Under no circumstances should an attempt be made by the town superintendent to detail any individual from any regularly organized forces as a patrolman temporarily, because a patrolman when appointed must necessarily be engaged in doing patrol work and should be required to do no work of any other kind. Particular attention is called to the fact that in the appointment of a town patrolman that he should form no part of any organization for road honing.

In towns where this plan has been adopted it has proven a wise and economical measure and much better general results as a whole are attained in such towns. It has been found that the roads are kept in smoother condition satisfactory to the users of vehicles of all kinds, heavily laden as well as pleasure vehicles, and the figures of maintenance cost as a result of the adoption of this system have been a source of surprise even to the prime movers in its adoption when compared with the results obtained.

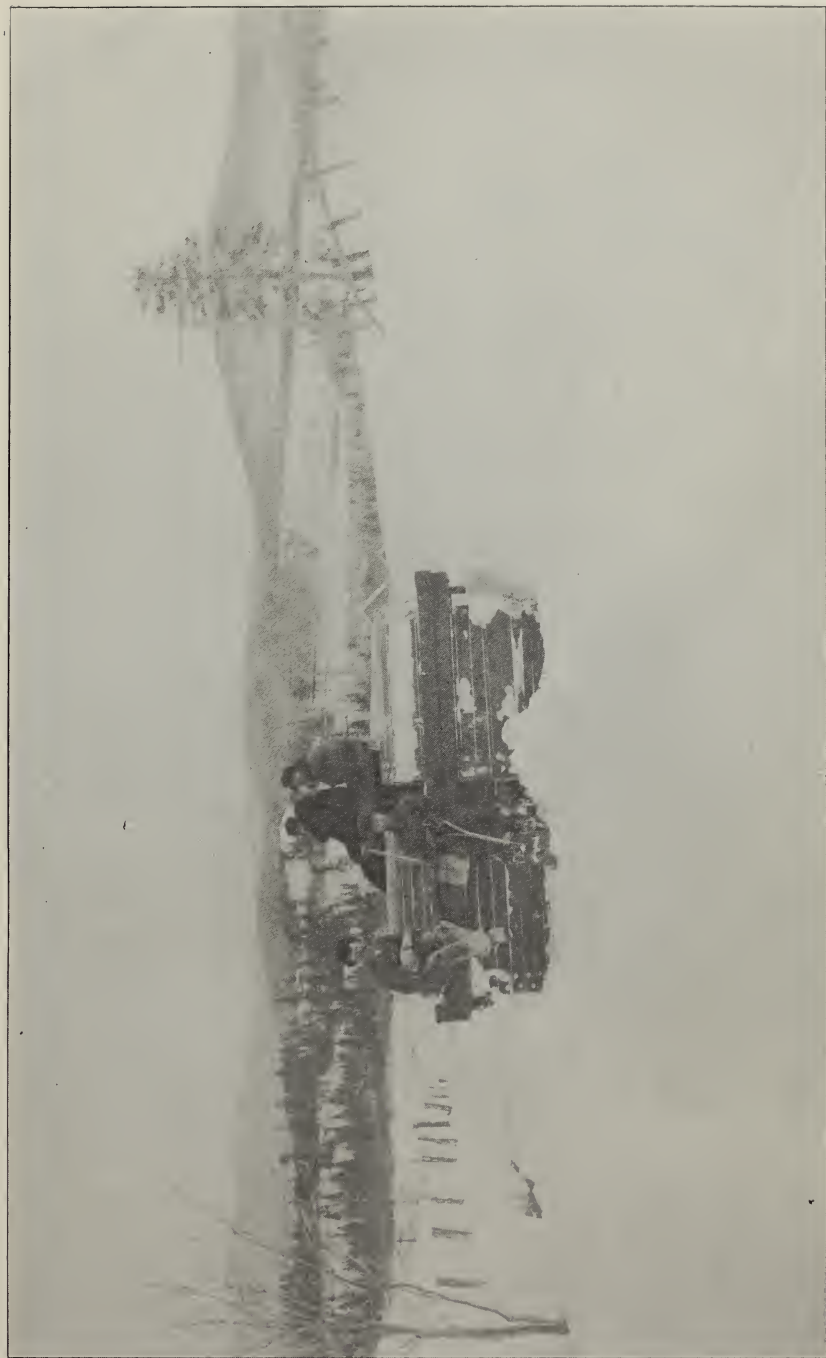
REMOVAL OF OBSTRUCTIONS CAUSED BY SNOW BY THE USE OF SNOW ROLLERS OR PACKERS.

In the northern counties of this State it has been the practice in many instances to roll snow. This method has been extremely successful. It has also been the practice in Wisconsin, Michigan, Vermont and other States, and the system has been so general in some localities that manufacturers of road machinery are advertising and putting on the market rollers for this specific purpose. The practice of rolling snow has been in vogue in Vermont for about twenty years, and is now almost universal, particularly in the eastern half of the State.

The advantage over other methods of removal of obstructions caused by snow is that a hard, wide and level track is made, which permits teams to pass one another without inconvenience or danger, the snow being compacted for a width of eight to ten feet, or thereabouts, and is therefore smooth on either side of the beaten path, and when new snow strikes this smooth rolled surface, it is easily blown away and gives little or no trouble. Sleighing remains good as long as any snow remains. In the spring, when snow is melting, little inconvenience is experienced, as the beaten track remains compact and hard and will sustain the traffic until the roadbed is exposed.

The principal object derived from rolling snow in these counties is to build up the track to a height where the drifting snow will not stop in the beaten pathway.

All those who have followed this practice agree that the best results are obtained by rolling immediately after the first snow-fall and continuing after all succeeding falls of eight inches or more, and also after all heavy winds. In this way the track is kept hard from the bottom, and, as heretofore stated, during thaws or in the spring when the final thaws come, no trouble is experienced from "breaking through" or "slumping."



A Snow Roller in Use.

Complaints have been made that on State highways constructed or improved by the State, county highways constructed or improved at the joint expense of State, county and town, and town highways, those constructed or improved by the town with the aid of the State, by the use of stone or gravel, the snow has blown away, thus leaving the roadbed bare in spots. Rolling, as soon as the snow has accumulated on the surface, will pack and retain the same upon the surface. This is substantiated by the special report regarding this question in Harriettstown, Franklin county, which follows:

“Rollers in use are of wood and of a diameter varying from $3\frac{1}{2}$ to 6 feet, and with a length of 6 to 12 feet, which may be constructed by local mechanics. The average weight of a 10-foot roller, 5 feet in diameter, is about 3,800 pounds, and the average cost of the same is \$35. Usually they are not longer than 10 feet, but many are 8 feet in length. There seems to be a sentiment among those who have had experience that rollers of from 8 to 10 feet produce the best results at a fair average cost.”

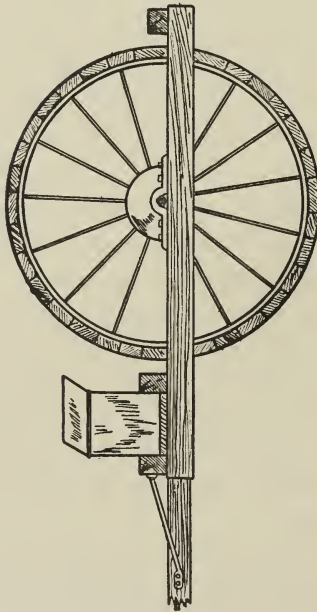
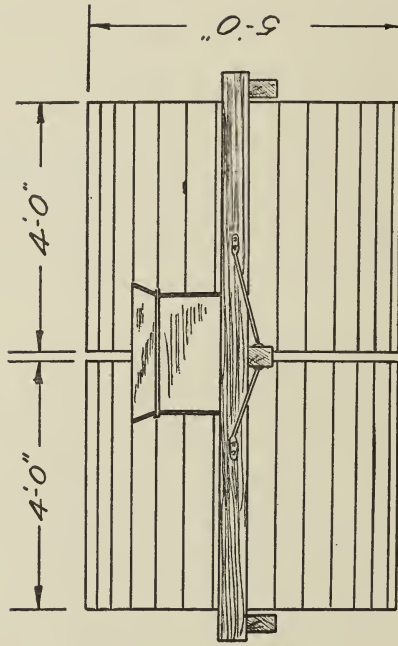
Following is an illustration of one method of constructing a snow roller.

Experience has demonstrated that a roller with solid ends is to be preferred to the one here shown. For the ends of the cylinders circles cut from two thicknesses of two-inch plank bolted together crosswise are to be preferred to the open iron ends here shown.

It will be noticed in some of the following reports that plows are mentioned, which are implements built especially for opening roads through deep snows. These are in use to some extent in northern counties. They are quite massive affairs, requiring from four to eight horses to draw them, and varying in cost from the simple, home-made plow built at a cost of about \$50, to the massive affair used in Canada, which costs about \$250.

In this State town officials who have had experience in rolling snow agree that the advantage of rolling over that of plowing, or any other system, is very great. In verification of this statement Mr. John Redwood, supervisor of the town of Santa Clara, Franklin county, whose postoffice address is Bay Pond, N. Y., makes the following statement:

“One important consideration is that plowing, especially in localities where the snow fall is heavy, has the effect of making a



SNOW ROLLER

channel in the center of the highway in which it is natural that the water from the melting snow will follow during a thaw. When the spring thaws come, the volume of water flowing along this channel, made by the snow plow, oftentimes washes out the center of the road, as that, of course, becomes bare first, and in very many cases when the snow is gone the road is found to be destroyed and must be returnpiked."

The same opinion is expressed by all of the supervisors and town superintendents who have had this experience.

Mr. Redwood also stated that, "One day in February, 1908, I started to drive from Bay Pond to Paul Smith's. The snow was deep and the road had been plowed several times, making an excellent track but with very high banks on each side. On the way I met two loaded teams; no way could be devised for passing, and the plowed track was so narrow and the sides so high that I could not, after unhitching my own horses get back past my cutter."

Instances of this kind are common, and teamsters traveling plowed roads make a practice of always carrying a shovel on their loads. When two loaded teams meet at a point between two turn-outs the drivers have to shovel a place wide enough for them to pass; a matter of no small amount of labor where the snow is five feet deep and well frozen.

In some localities snow packers are used and reports regarding same have been received. The effect of the packer is practically the same as that of the roller, and in view of the fact that so many of the users of the roads where it has been in operation speak so highly of its merits, it would seem that they are worthy of investigation.

To the end that as complete information as possible may be given town officials of all the towns of this State, an inspector was detailed to make a thorough investigation and to make a careful report, extracts from which are appended, viz:

"Town of North Elba, Essex County, W. J. Washburn, Town Superintendent, postoffice address, Newman, N. Y.

Mr. Washburn states that during the winter of 1907-1908, about twenty miles of main road were rolled ten times, and about ten miles of by-roads eight times, this being sufficient to keep these roads in good traveling condition all winter. The road from

Lake Placid to Keene (stage and mail route), a distance of twelve miles, was kept in fine condition during the winter of 1907 and 1908, at a total expense of \$80."

The inspector in his report further states:

"To observe the effect of thawing on deep snow which had been rolled, I drove out a short distance from Lake Placid on the hill road where a heavy body of snow had accumulated. Less than a mile from the village was a place where for about one hundred rods the snow was from seven feet to ten feet deep in the track. This was on January 5, 1909, the second day of the thaw, which came the first week in January, and considerable rain had fallen during the night of the fourth and the forenoon of the fifth. Teams of all descriptions, double, single, light and heavily loaded, were passing over this road with no difficulty whatever.

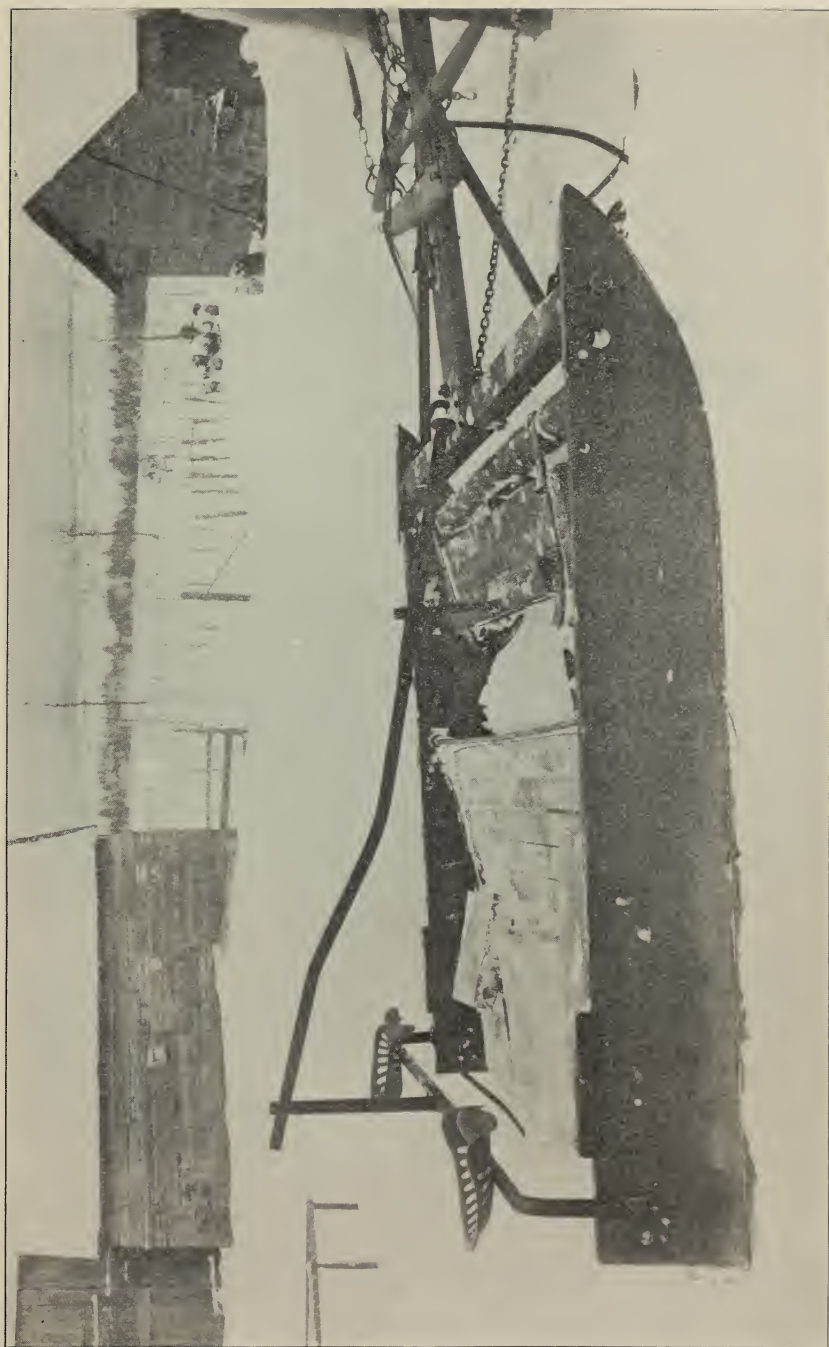
I talked with several citizens, taxpayers of this town, and they were unanimous in the opinion that rolling was preferable to any other method known at present for handling snow. Previous to rolling, the roads of this town had been plowed and shoveled. Now the plows are not used at all, except in the spring after the main body of snow is gone, when they are sometimes used to break through heavy banks so as to allow wagons to pass easily."

Town of Harriettstown, Franklin County, Mr. A. S. Whitman, Town Superintendent, postoffice address, Harriettstown, N. Y.

Mr. Whitman, as town superintendent, has rolled snow in his town two winters. He uses an ordinary iron land roller, such as are made by nearly all manufacturers of agricultural implements. He thinks that a regular snow roller would be much better, but considers the land roller much ahead of plows or shoveling. Lack of funds has prevented the purchase of snow rollers, which they hope to buy another year.

Seven miles of the worst road in the town were cared for during the winter of 1907-1908, at a total cost of \$50. The total cost of caring for all main and by-roads which were rolled during the winter of 1907-1908 was \$125. In addition to this, a few miles in another part of the town were plowed and shoveled, the expense per mile being about double that of those rolled. This town was visited on January 6, 1909, that being the third day of the thaw.

The inspector says: "I drove to Harriettstown from Lake Clear, the first part of the way being through open country — level and no fences. For two or three miles from Lake Clear the



Side View of a Snow Packer.

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snow at either side of the track and in the adjacent fields was practically all gone, but in the track, which had been rolled, the sleighing was good. This, I think, shows that the claim made by advocates of rolling, that compacting the snow prevents its melting as rapidly, is proven. Nearing Harriettstown I passed over drifts in which the snow was from three feet to four feet deep in the track. This section showed some signs of softness, but not to any dangerous or disagreeable extent, and proves, I think, the superiority of the heavy roller which, by reason of its greater weight, leaves the snow in so much harder and unyielding condition."

He states that Mr. Whitman says, as do all of the other town superintendents whom he has seen, that rolling preserves the snow in thin places to the latest possible date, and serves an important purpose, as it makes it possible to move loads on sleighs continuously very close to the time of wagoning.

Town of Duane, Franklin County, Mr. Clinton Ladd, Town Superintendent, postoffice address, Duane, N. Y.

The winter of 1907-1908 was the first in which this town rolled snow. In that winter one roller was used, that being a home-made wooden roller, five feet in diameter, twelve feet long, and in two sections. This winter they are using three rollers of similar pattern to the first, but Mr. Ladd thinks that rollers ten feet in length would be preferable on many roads, as a ten-foot track is sufficient to accommodate ordinary conditions of travel and less trouble is experienced in getting a ten-foot roller through narrow roads and between the rails of narrow bridges.

Previous to 1907-1908 the roads were plowed and shoveled, but as the town was then under the labor system comparative figures of cost could not be given. During the winter of 1907-1908 ten miles of road through open country, which drifted badly, were rolled regularly and were kept in good condition throughout the entire winter for a total cost of \$55.

In one section of the town, during the winter of 1907-1908, three miles of road were kept open by plowing, at an expense of a little over \$30. Five miles of the same road immediately adjoining and of similar character were rolled and kept in better condition than that which was plowed, at an expense of \$28.

Here is an excellent instance of comparative cost, as conditions were identical:

Plowing and shoveling for the entire winter cost \$10 per mile. Rolling for the entire winter cost \$5.60 per mile, and a better track was maintained by rolling than by plowing and shoveling.

Some of the roads in this town drift very badly and Mr. Ladd stated that it often happens that after a hard blow places are found where it is impossible to drive through with the roller. In such cases the teams are unhitched and driven through empty, thus making a path through which they can pass when hitched to the roller. Sometimes places are found where it is impossible to get a horse through, even when unhitched, and in such case a track is first wallowed out by the men or broken out by other means.

The same statement in regard to rolling having the effect of preserving the snow in thin places is made by Mr. Ladd as by other town superintendents whom I have seen. That the town officials and citizens of Duane are pleased with the system is best evidenced by the fact that this winter they are using three snow rollers, whereas they had but one last winter.

The inspector in his report states that he "talked with several mail carriers who handle mail from railroad points to inland towns, back in the mountains, and all are enthusiastic in praise of the system of rolling as against any other which has been practised in this region."

Town of Brighton, Franklin County, Mr. B. A. Muncil, Town Superintendent, postoffice address, Paul Smith's, N. Y.

The town of Brighton has practiced snow rolling for five years, the rollers used being ordinary wooden rollers, five feet in diameter, one of eight and one of ten feet in length.

All of the main roads in the town are rolled, the cost for five years being an average of a trifle over \$5 per mile.

Previous to beginning the practice of rolling, this town, in common with others in Franklin county, used plows and shovels. Since beginning the rolling they have not used them at all. In the winter of 1905-1906 an implement was put in use on the roads of this town known as the "snow packer," the principle of operation being similar to that of a stone boat. For the three years last past, nine miles of road in the town were kept in order by the use of these packers. The results are very satisfactory, the cost per mile being a little less than that of the roller.

Town of Highmarket, Lewis County, Mr. Anthony Dolan, Town Superintendent, postoffice address, Constableville, N. Y.

This town has practiced rolling snow for three years, this winter being the fourth. The practice was begun by volunteer work on

the part of several farmers and teamsters in different parts of the town, who obtained their ideas of the benefits of the system from some of the towns in Franklin county and also in Vermont.

No money from town funds has been paid for the work during those three years. Previous to the beginning of rolling the work has been done by plowing and shoveling. The results of the experiment in rolling were so satisfactory that the practice was enlarged until it covered practically the whole town. The town is now divided into snow districts, each being in charge of a man who contracts to keep his "beat" or district rolled for an agreed price for the winter, the price for this winter being \$6 per mile. Sixteen rollers are in use and about forty miles of road are being regularly rolled. This comprises all of the important roads in the town, the balance being cross-roads and branches of minor importance.

Several of the roads being rolled are rural free delivery routes, and, so far, no trouble has been experienced in maintaining the regular service.

In the winter of 1907-1908 the rural free delivery carrier on Route No. 1 out of Constableville missed no trips on account of snow blockades. Route No. 1 lies mainly in the eastern part of the town and is twenty-five miles in length.

Route No. 2 crosses the town of Highmarket and goes a short distance into the town of Lewis, returning through Highmarket, and is twenty-five miles long. This is a bad route and runs through some of the most difficult portions of the town, deep snow and bad drifts prevailing over the major portion. The carrier on this route missed two trips in the winter of 1907-1908, these being on days when blizzards prevailed, and it was impossible to work teams on the rollers while the storm was raging. As soon as the blow was over, the rollers were started and the roads immediately opened. The system is so well thought of that the farmers and teamsters and lumbermen have voluntarily built all the rollers now in use, so when the town assumed the expense, the rollers were already on the ground and the town owns no rollers at all.

The inspector states that he talked with several lumbermen and liverymen, and with the local physician at Constableville, and they unite in the opinion that it is the only way to deal with the snow problem. The liverymen at Constableville are so much pleased that they are donating the service of a man and team from each stable after every snowfall to the town of West Turin, which has begun the practice this winter and is carrying it out mainly by volunteer work.

He also states he drove from Lyons Falls to the village of Constableville on Monday, January 25th, and one feature of rolling which he mentioned in former reports was amply confirmed; that is, the effect of rolling in preserving the snow in thin places during a thaw. The track for quite a distance out of Lyons Falls showed very plainly that, except for rolling, it would have been absolutely bare. The snow at the roadsides and in adjacent fields was entirely gone. The liveryman at Lyons Falls who drove to Constableville on Monday afternoon was loud in his praise of the system, and said that the lumber company that is carrying on large operations in the country to the southeast of Lyons Falls is using rollers this winter on its logging roads.

The rollers in use in Highmarket are of various sizes, ranging from three feet to five feet in diameter and from six to ten feet in length.

With rollers of six feet and eight feet in length, the common practice is to drive the "near" horse in the "off" track going out, or vice versa, and the same coming back, thus rolling a track about twelve feet wide with an eight foot roller and fourteen feet with a ten foot roller. Experience has demonstrated that the ten foot roller, made in two parts, is preferable for the majority of roads.

The following is a copy of a letter which explains itself:

"JEFFERSONVILLE, N. Y., Feb. 6, 1909.

"MR. S. PERCY HOOKER, *Chairman, Albany, N. Y.*:

"MY DEAR SIR.—I did not reach home until last evening and consequently have been unable to procure the figures on snow shoveling. However, I will state that there can be no fair comparison between the cost of shoveling the snow and rolling it, for the reason that the actual results cannot be accurately measured and are entirely in favor of rolling.

"During the past two winters we have stored a roller on the apex of a hill dividing the two valleys which run through our town, and after a snow fall, or wind storm if there is snow on the ground, a party living at that point takes his team and rolls the roads; four roads meet at this point and it is down hill in each direction. After making a trip down one road it will be easy for him to get back, procuring an additional team if necessary, and then he can roll down another road and thus continue until the roads are all opened.

"I presume that in almost all the towns a number of these advantageous points can be selected from which to begin operations.



A Snow Packer in Use.

"The old method of shoveling snow where it was too deep or where it had drifted in is really only a temporary relief, frequently not lasting until the return trip of the party doing the work; at the same time it is the means of erecting insurmountable barriers on either side of the road.

"It would be only a waste of time to dwell upon the many advantages of rolling, for its producing a solider and wider roadbed, a longer continuance of sleighing, a better protection of the roadbed, thereby reducing the amount of wash and a nonerection of banks on each side of the road to catch more snow, must be apparent to all.

"The system of shoveling is ancient and should be prohibited except where absolutely necessary.

"I would suggest that you make experiments as to weight, size and construction of a roller best adapted to the various kinds of road as found in the different sections of the State and report your findings, together with the recommendation that only such rollers be purchased as the report shows are adaptable.

"There will be many of these rollers purchased in the near future and it will be much cheaper for your department to investigate the matter thoroughly than to have each town determine what is best experimenting itself.

"Yours very truly,

"(Signed) V. SCHEIDELL."

From the above information, the results obtained by the practice of rolling snow is of much interest to the towns in central and southern New York, and seems to have clearly proven the fact that rolling preserves the snow and maintains an excellent track. This is an important consideration in towns where the condition frequently occurs, that the valley roads and the roads improved by the State are so nearly bare of snow as to make the hauling of loads impossible, while the hill roads immediately adjacent are yet so full of snow as to prevent the use of wagons. Rolling in towns where these conditions occur would preserve the snow track to the latest possible date. In a majority of seasons it would be possible to hold the sleighing on the valley roads and on the roads improved by the State until the thaw has so reduced the snow on the hill roads that they might easily be opened to admit the passage of wagons all the way.

Another good effect would be the preservation of a snow and ice coating on roads either macadam or dirt to the latest possible

date, thereby doing away in a measure with the softening effect of alternate freezing and thawing.

It is an easy matter for towns in the central and southern portions of the State to make experiments of this character by using the ordinary land roller, provided they did not care to construct one in accordance with the plan herein contained. These rollers, while not producing as good results as those which are larger and heavier, would at least serve for experimental purposes along this line in those counties, and it would easily demonstrate whether the system would be productive of results in those localities which would warrant the expense of larger and heavier rollers.



A Snow Roller in Use.

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INVENTORY AND STORAGE OF TOOLS, IMPLEMENTS AND MACHINERY.

As required by law the town superintendent must annually make an inventory of all tools, implements and machinery owned or leased and in the possession of the town, and provide a suitable place for housing and storing the same. If the town boards fail to provide tool and machinery houses for such specific purpose, the town superintendent must either rent or provide in some other way for suitable storage. Any expense that the town superintendent may be called upon to incur in complying with the provision of law in this respect is a town charge and if there is any disposition on the part of the town board to fail to provide funds for payment therefor there is no question that the bills thus incurred are legitimate and can be collected by due process of law.

INJURIES TO HIGHWAYS AND BRIDGES.

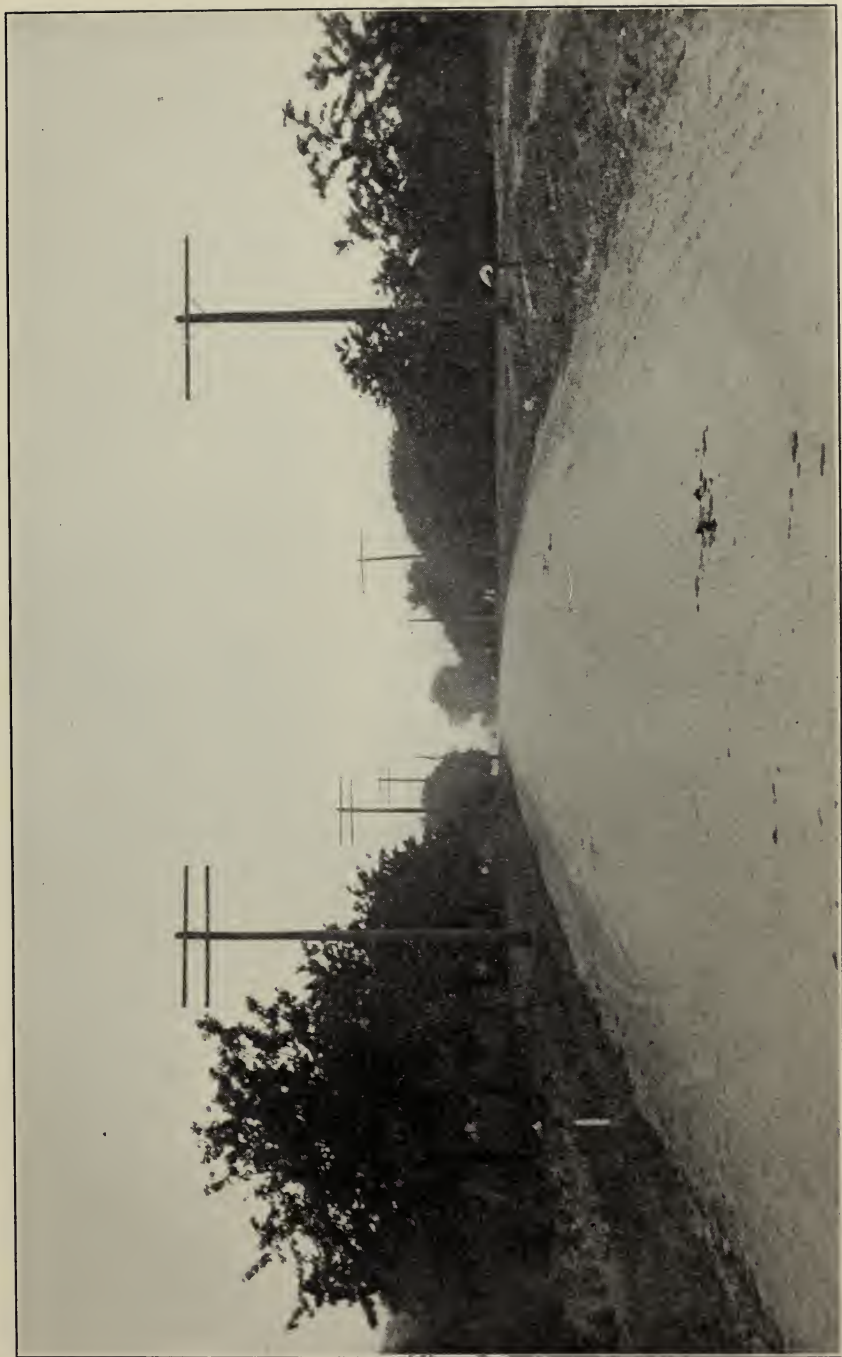
In every community there is a class of people who have no regard for the rights of others and the sooner drastic steps are taken by State, county or town officials in giving such individuals to understand that the people's rights must be protected, the better it is in every case for all concerned. Complaints have been received from nearly every section of the State to the effect that either individuals or corporations were abusing their privilege of the use of the highway. This more particularly applies to the use of extremely heavy motor-drawn vehicles and unreasonably heavy loads upon narrow ties.

It is reasonable to presume that the surface of a road should be of such nature or character that it will stand a pressure of from 250 to 300 pounds to the lineal inch and it is also as reasonable to presume that any load drawn or propelled over the highway and bridges of sufficient weight to produce a pressure much in excess of this is excessive and destructive. To illustrate, an ordinary wagon with four-inch tires, carrying two tons, would produce a lineal inch pressure of 250 pounds without taking into consideration the weight of the wagon.

With a generally improved condition of the public thoroughfares of the State, either town, county or State highways, the honest and considerate user of the same will not presume and others should not be allowed to exceed these limits. It is provided by section 78 of chapter 16, constituting chapter 11 of the Consolidated Laws, that the board of supervisors may enact local and private laws regulating the width of tires used on vehicles built to carry a weight of 1,500 pounds or upwards and may provide penalties for the violation thereof.

Therefore the boards of supervisors of the respective counties of the State are urged to adopt a county-wide tire act.

In one of the counties of this State the county superintendent and his assistants made a careful estimate showing the misuse of a public thoroughfare within that county by the user of a



MONROE COUNTY.—Paving of McClintock's cubes.

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traction engine and after thoroughly investigating and making a careful estimate of the damage done by this one piece of machinery, it was shown that one trip through the town in the county in question the damage to the main public thoroughfare was more than enough to pay for the engine itself.

Individuals who are using traction engines for the purpose of hauling loads of various character and description should be given to understand that there is a limit beyond which they should not go. This will apply not only to the quarrymen, to the thresher, but particularly to contractors who are engaged in the construction of State and county roads and in the destruction of town roads by the hauling of machinery which is in frequent use.

For the guidance of county and town officials and more particularly for the town superintendents, particular attention is called to section 330 of the Highway Law as amended by the Legislature of 1910, for the express purpose of clothing him with power to act in cases of this kind. This section of the Highway Law reads as follows:

"Injuries to Highways. Whoever shall injure any highway or bridge maintained at the public expense, by obstructing or diverting any creek, water-course or sluice, or by dragging logs or timber on its surface or by drawing or propelling over the same a load of such weight as to injure or destroy the culverts or bridges along the same, or of such weight that will destroy, break or injure the surface of any improved state, county or town highway, or by any other act, or shall injure, deface or destroy any mile-stone or guide-post erected on any highway, shall for every such offense forfeit treble damages."

The town superintendent would undoubtedly be negligent in his duty as such if he did not attempt to enforce the provisions of the above section and in fact the law is explicit on that point. Subdivision 1 of section 47 provides, that the town superintendent shall have care and superintendence of the highways and bridges in the town. Subdivision 12 provides, that he shall collect penalties prescribed by this chapter, and section 73 provides, that the town superintendent shall bring an action in the name of the town against any person or corporation to sustain the rights of the public in and to any highway in the town and to enforce the performance of any duty enjoined upon any person or corporation in relation thereto and to recover any damages sustained or suffered or expenses incurred by such town in consequence of any act or omission of any such person or corporation in violation of any

law or contract in relation to such highway. It, therefore, appears that the town superintendent is not only clothed with proper authority to enforce the law but the law is specific in that it is mandatory and the town superintendent must perform his duty in this respect.

It would seem after studying this question carefully that the easier and better course of procedure on the part of a town superintendent where highways, culverts or bridges are injured within the meaning of section 330 of the Highway Law, would be that he should first attempt to effect an amicable settlement with the offender and failing to effect such settlement he is certainly clothed with the authority, and it is his duty, to repair such damage, keeping an accurate account thereof and then to commence an action against the offender in the name of the town for treble the amount.



MONROE COUNTY.—Superintendent McClintock's cube factory.

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CULTIVATION OF CROPS WITHIN THE BOUNDS OF THE HIGHWAY.

It is a common practice in many towns of the State for the owners or occupants of property to plow or cultivate lands within the bounds of the public highway. Practices of this kind should be encouraged to the extent that it may ultimately result in clearing the highway of weeds and brush and seeding the same in order that its general appearance may be beautified, thus giving an impression of care, thrift and prosperity. County and town superintendents could occasionally employ their time to no better advantage than by calling the attention of owners or occupants to the fact that if they will take the pains to cultivate the land within the bounds of the highway and seed the same they themselves will ultimately profit by such a course, not only by being able to secure a direct revenue from it but by putting themselves in such a position that they will not be called upon as required by law to cut and remove noxious weeds, briers and brush during the months of June and August.

Owners or occupants of lands in many instances in many towns have abused their rights under the law and even have gone so far as to violate the law in that in the cultivation of such lands they have been careless and negligent by plowing into and through the ditches, thus obstructing the natural water courses, and also by seriously interfering with the town superintendent or his employees in the proper maintenance and care of the public highways. Generally speaking, a friendly word of caution or a little care on the part of the town superintendent in a courteous way informing such owner or occupant as to his rights and the application of the Highway Law, will produce the desired result.

The farmer who is desirous of improving and beautifying his property, provided he has been informed by the town superintendent as to his rights and duties, will not assume to perform work of this character in violation of the spirit and intent of the law, and the careless, shiftless or wilful owner or occupant who has no desire to be a law-abiding citizen and no respect for the

rights of others, must not be permitted to violate the law by obstructing ditches in this way or by any other act, such as piling logs, lumber or wood, or placing other obstructions within the bounds of the highway. Whenever a town superintendent finds a ditch filled up by plowing or otherwise he is directed by the rules and regulations of the Commission, and not only that but it is his duty as prescribed by law, to cause the removal of such obstruction. A careful and conscientious town superintendent would first undertake to amicably settle questions of this character but whenever or wherever he finds that he cannot persuade the owner or occupant to perform his duty by removing such obstruction it is the duty of the town superintendent to cause work of this character to be performed, keep a careful account of the cost thereof and to commence an action in the name of the town against such owner or occupant for three times the cost thereof.

In the cultivation of land within the bounds of the highway the owner or occupant would have no authority or right by law to plant any kind of a crop or to grow anything that will in any way interfere with the rights of the traveling public in the use thereof.



FRANKLIN COUNTY.—Town of Franklin. Crushed stone road one mile in length built by town superintendent in three courses, rolled separately. Metal, 12 feet wide, 10 inches to 14 inches deep. Cost \$2,800 including rental of crusher and roller. Location so stony that greater part of shaping was necessarily done by hand.

COMPLAINTS.

A more active interest in the condition of the highways on the part of residents of the towns and users of the public thoroughfares would be appreciated by the Commission. All complaints or letters containing information should be addressed to the Bureau of Town Highways, Albany, New York, and upon receipt of any reasonable complaint immediate steps will be taken to investigate the matter and if found to be justified, steps taken for the correction of the same. People are requested to commend or criticize such features of the town highway work as they may consider deserving of either.

AGREEMENTS.

The town board and the town superintendent constitutes a board for the purpose of determining the places where and the manner in which highway moneys shall be expended, thus calling for an agreement to be entered into by and between the town board and the town superintendent, and the agreement entered into by this board must be approved by the Commission before the same shall take effect. Unquestionably the intent of the law wherein it provides that the agreement shall be approved by the Commission before the same shall take effect, was for the express purpose of precluding the possibility of expenditure of highway funds except in the line of good practices and in the general interests of the people of the respective towns of the State. Unless the agreement be approved by the Commission it naturally and necessarily would be inoperative. Section 15 of the Highway Law, which defines the general powers and duties of the Commission, provides that it shall have general supervision of all highways and bridges which are constructed, improved or maintained in whole or in part by the aid of State moneys. It also provides that the Commission shall prescribe rules and regulations not inconsistent with law; that it shall compel compliance with laws, rules and regulations relating to such highways and bridges by highway officers, and see that the same are carried into full force and effect. It is, therefore, unquestionably the bounden duty of the State Highway Commission to carefully scrutinize such agreements and wherever or whenever it is apparent that the agreement has not been carefully entered into or that any portion of the same calls for an unwarranted expenditure of funds or for a special kind of improvement that is not to the common interest of the taxpayers, it is then the duty of the Commission to disapprove of such agreement and to insist that a proper agreement be entered into.

Section 33 of the Highway Law provides that the county superintendent shall have general charge of all highways and bridges

within his district or county and see that the same are improved, repaired and maintained as provided by law and have the general supervision of the work of constructing, improving and repairing bridges and town highways in his county. Owing to the fact that the county superintendent is to have general supervision of the public highways and is by law subject to the rules and regulations of the Commission, it has been deemed proper that all agreements entered into shall be first transmitted to the county superintendent for his approval or criticism as the case may be, before the same shall have been forwarded to the Commission for final approval. The county superintendents are, therefore, particularly urged to carefully scrutinize these agreements and in transmitting the same to the Commission to be careful to call attention to any condition that may exist therein which to their minds might not be deemed proper.

Better still it is suggested that all county superintendents follow the example which has been set in a number of counties by meeting with the town board at the time of entering into an agreement in order that they may be able to offer proper suggestions and to aid and assist the town board in formulating an agreement which shall be to the best interests of all.

It might be well to call attention to some conditions which have heretofore existed but which hereafter will not be permitted. Complaints have been made that in some towns the board met and entered into an agreement providing for extraordinary outlays in the immediate locality of various members of the town board, such as gravel roads or crushed stone roads, putting a patch here and a patch there for the purpose of pleasing some town officer or some prominent town resident, and that the roads generally in such town are neglected, and necessarily so because of the lack of funds to carry on comprehensive work in the interests of the whole town. Complaints have also been entered where the agreements have provided for the construction of stone or macadam town roads in short patches or stretches involving an expenditure of small amounts of money, thus necessitating the taking down, transporting and setting up of crushing plants, causing a waste in some instances of at least one-half of the revenue set aside for such specific purposes. Such practices as this will not be approved. Town and county officers are particularly requested

to cast aside all personalities and to carefully consider the general conditions that must be cared for, noting the fact that all of the highways of each town must have proper care and attention to such an extent as the amount of traffic such highways are called upon to carry, demands.

STONE CRUSHERS.

The provisions of section 50 of the Highway Law which relate to the lease or hire of steam-rollers, stone crushers and traction engines, are for the express purpose of encouraging the officials of the town in taking necessary steps for the purpose of providing them with necessary machinery for town highway work. Under a separate head in this bulletin is found an article which relates to the use of mechanical power for highway work, and particular attention is called to the subject-matter therein contained.

After a careful study of the varied conditions which are found in the various towns of the State, all of which is based on practical experience, it is deemed best to offer a word of caution to town authorities in the lease or purchase, or the operation, of stone crushers and stone crushing plants. It is not the intention of the department to promulgate an inflexible rule regarding the same but local town authorities should be discouraged in pursuing a practice which has been very common, namely, in expending money for the purchase of crushing plants and in the use of such crushing plants for the purpose of constructing short patches of roads, here and there, which absolutely prohibit comprehensive work or the necessary proper attention which should be given to all of the roads of the town. This department is insistent in urging such town authorities to provide means so that each and every mile of highway of the towns of the State may receive its proper primary attention.

By reference to the subject-matter contained in this Bulletin under the head of Agreements it will be noticed that the attitude of the Commission, and perhaps more particularly the bounden duty of the Commission, in this respect is fully set forth. There are many instances where nearly all of the town highway funds have been absorbed in an endeavor on the part of the town superintendent to construct town macadam highways and in every instance of this kind upon investigation it has been found that the taxpayers of the town and the users of the roads of the town have been prone to make complaint criticizing the action of the town

authorities and the town authorities themselves have not been satisfied with the result of their own efforts.

Where mistakes of this character have been made by purchasing stone crushers or stone crushing plants the town authorities are urged to discontinue the use of such plants and not continue to make mistakes of this character. In the interests of economy the town should see that such machinery is properly housed and cared for until the time arrives when such machinery can be used to advantage and this cannot be done in any town unless comprehensive work has been performed to the extent that the highways of the town at large have received their proper primary attention by standardizing as to width, proper shaping and crowning, straight ditch lines, substantial culverts, drainage, etc. There is no doubt of the practicability and economy of a town constructing macadam roads under proper circumstances, and they are urged so to do, but only when either the town roads as a whole have previously received proper attention or the town authorities provide in the estimate a fund sufficiently great to enable them to carry on this work in addition to and independent of general primary improvement.

It is a serious mistake to lease, hire or purchase a stone crusher or stone crushing plant unless the town is also in possession of a power roller as macadam roads cannot be economically constructed without the use of the same. While crushed stone roads have been built without the use of a roller, depending upon the traffic to compact the stone, it is an expensive way of accomplishing the result and one that is exceedingly annoying to travel for a period of weeks and sometimes months.

A town superintendent should not be permitted either by the consent of the town board or otherwise, to undertake the construction of a macadam road until the roadbed has been put in proper condition to receive the stone, proper permanent culverts have been constructed, and an ideal system of drainage established. Still further, the patch work system which has been inaugurated in many towns must be discontinued and such work when begun should be laid out on a plan so that from year to year it will result in a system of roads which will be to the benefit of the townspeople at large.



ONONDAGA COUNTY.—Macadam road built by town superintendent. Considerable grading work was done, grade being reduced from 15 per cent. to 11 per cent. Standard macadam laid in two courses, width 16 feet. Penitentiary prisoners were used thus reducing cost about one-half. Length of improvement, 1,000 feet, cost \$500.

COLLECTION OF TAXES AGAINST STATE LANDS.

As soon as the collector receives his warrant he should make out the list of taxes against State lands, as required by law and immediately give it to the county treasurer and should not wait until he makes his return for uncollected taxes. Promptness on the part of the collector in this respect will enable the county treasurer to secure from the State, the money for highway purposes prior to the payment by the comptroller of the money for return taxes in August, or, in other words will enable the supervisor of the town to be in possession of the total highway funds for highway purposes at the time when highway moneys are needed.

WIDE TIRES.

One of the most important factors, associated with the subject of the improvement, maintenance and repair of the public thoroughfares, is the width of wagon tires and the shape and size of the wheels. A vast amount of the present wear and injury to the public thoroughfares could be avoided provided that wide instead of narrow tires be required on wagons designed to carry heavy loads.

Narrow tires have a much more injurious effect upon a road than wide tires, because, in the latter case, there is a distribution of weight over a greater bearing surface and the pressure, per square inch upon the surface, is reduced. Wide tires do not readily cut into the roadway and form ruts. A loaded wagon, with two-inch tires to support the load, wagon and all, would have twice the weight over the bearing surface, than if the tires of the wagon were four inches wide.

In governing the use of wagons with wide tires and in the manufacture and purchase of such wagons, consideration should be given not merely to the strength of the wagon and its loads, but also to the strength of the road to be traveled. Wide tires do not as readily cut into the roadway and form ruts. They act as rollers and tend to compact the roadway. Narrow tires are road destroyers. Wide tires are road builders.

Small wheels are also much more injurious than large ones, because the greater the diameter the greater the surface over which the weight is distributed. It is also well to state that vehicles with springs have a much less injurious effect upon a roadway.

As to the desirability of the use of wide tires there can be no question. The most casual observation will suffice to convince any one of the damage of a heavily laden wagon equipped with the ordinary narrow, sharp, rounded tires will produce. There is also another, and perhaps even greater advantage to be gained by their use, namely, the increased hauling capacity attained. Tests have been made from time to time, of the effect, not merely on the road, but also on the pull or power required to move the load.



ONONDAGA COUNTY.—Concrete culvert on road shown on cut facing page 104. The first attempt at concrete construction by this town superintendent. Length, 18 feet between walls, opening 2 feet by 2 feet, sidewalls 16 inches thick, total cost, \$35.

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A very interesting bulletin (No. 12) has been issued by the United States Department of Agriculture, giving a synopsis of the laws of various States in the Union and in foreign countries in relation to the use of wide tires, together with detailed descriptions of thorough tests which have been made and the results thereof. These tests prove conclusively the advantage of wide tires to the general public, as a road improver, and to the individual users as a money saver. It requires no complicated mathematics to figure out the benefits derived from the use of a vehicle capable of carrying on macadam roads 2,500 pounds as against 2,000 pounds; on gravel roads, 2,482 pounds as against 2,000 pounds, and on dry dirt roads, 2,500 pounds as against 2,000 pounds; while on clay roads, with deep mud, slightly dry on top, a large number of tests showed an average of 3,200 pounds for the wide tired vehicles as against 2,000 pounds for the narrow tired.

An instructive paper (Bulletin No. 39), issued by the Agricultural Experiment Station of the University of the State of Missouri, at Columbia, Mo., contains a very exhaustive discussion of the influence of the width of tires on draft of wagon, with details of tests in all descriptions of roads, on meadows, pastures, stubble and plowed lands, with cuts showing the roads as they appeared after the tests were made, and giving as a conclusion an advantage varying with the different conditions of from 17 to 120 per cent. in favor of wide tires.

Of the many tests which have been made to establish the claims in favor of wide tires as against the narrow ones, a few of the results are given as stated in Bulletin 12 of the United States Department of Agriculture, by General Roy Stone. In Utah, at the experiment station, it was shown that a given load on 1½-inch tire, pulled 40 per cent. heavier than when on a 3-inch tire, the test being made on grass sod. On a moist, but hard road, the percentage was 12 7/10 in favor of the 3-inch tire. In Ohio, a wide tire test was made in the State University. An ordinary wagon, with new 3-inch tire, was loaded with two long tons (4,480 pounds), and the draft measured by a dynamometer. On an ordinary earth road, in good condition and hard, the draft was 254 pounds. On a grass field it was 468 pounds. On a newly plowed field it was 771 pounds. As 150 pounds is the draft of an ordinary horse of 1,000 pounds, two horses could draw this load with ease on an ordinary road, and a ton and one-half on grass sod; while with a narrow tire one-half as much or a single ton is a full load

for a double team. Besides this, the broad tires roll and level the road so that the more they are used the better the road becomes, while narrow tires cut it into ruts.

Professor Sanborn, of the Missouri Agricultural College tried the same experiment with wagons having tires of different widths, using a Baldwin dynamometer. The weight of the loads drawn was 3,665 pounds each. The tires were $1\frac{1}{2}$ inches and 3 inches, respectively. The tests were made on blue grass sod partially moist. The draft of the wide tires averaged, for level ground, 310 pounds. For the narrow tires the draft was 439 pounds or $41\frac{6}{100}$ per cent. more than the wide tires. Assuming the wagon to weigh 1,000 pounds, then on the broad tire 3,248 pounds would be drawn as easily as 2,000 pounds on the narrow tires. Again the broad wheels in the trial did not injure the turf, while the narrow wheels cut through it.

It will be seen, therefore, that the wide tires are not only lighter in their draft than the narrow ones, under nearly all conditions, but that they cut up the road very little; in fact, when four inches wide, they tend to make the road continually better.

That this subject has had the closest attention paid to it in Europe is proven by the regulations adopted in the various countries as reported by the United States consuls.

In Austria, all wagons built for a load of more than two and one-fourth tons must have wheels with rims at least four and one-third inches wide (Styria and Carinthia), and if built for more than four and one-half tons (in Styria), or more than three and one-half tons (in Carinthia), the rims must be at least six and one-fourth inches broad. In lower Austria a width of rim of four and one-half inches is required for loaded wagons drawn by two or three horses. In Bohemia the same regulation applies.

In France every freight and market wagon is a road maker. The tires are from 3 to 10 inches in width, usually from 4 to 6. With a few four-wheeled vehicles used, the tires are rarely less than six inches in width and the rear axle is about fourteen inches longer than the fore axle, so that the rear or hind wheels run about one inch outside of the level rolled by the front wheels.

In Germany the rule prescribes that all wagons drawing heavy loads, such as coal, brick, earth, stone, etc., must have tires at least four inches wide.

By carefully noting these regulations one will see that the European countries have long ago discarded the narrow tires, much

to the advantage of their roads and the saving of their horses and vehicles; and it is to be hoped that the American farmer, after digesting these statements, will see the advantage of such a self-evident proposition and follow their example.

Section 22 of the Highway Law prescribes that the Commission may make rules and regulations prescribing the width of tires to be used on State and county highways and that any disobedience thereof shall be punishable by a fine of not less than \$10 and not more than \$100. Therefore, the attention of manufacturers, dealers and those who are about to purchase new wagons is called to this fact, that they may be able to provide for this contingency. Owners of wagons should appreciate the fact that heavily loaded wagons with narrow tires will not be permitted to use the improved highways built by the State or jointly by the State, county and town. And even though, at the present time, there may be but very few miles of such roads in a town, or county, it certainly would not be advisable to be excluded from the use of such roads.

It must not be contended that wide tires come in contact with more loose stones than wagons with narrow tires because of the fact that section 47, subdivision 6, provides that the town superintendent should cause the loose stone lying in the beaten track of every highway to be removed, and such an officer of a town should so organize his forces that he may be able to keep the surface of all roads smooth and free from ruts and depressions.

In cases where the town superintendent is negligent in this particular, it not only is the right, but the duty of the users of the public thoroughfares to inform the Commission of such fact without delay.

RULES AND REGULATIONS PRESCRIBED BY THE COMMISSION FOR THE GUIDANCE OF COUNTY AND TOWN OFFICERS.

Directions for the Guidance of County Superintendents.

First.—A county superintendent must observe the prescribed rules and regulations of the commission.

NOTES.

1. The directions hereinafter contained are to be regarded by county superintendents as the rules and regulations prescribed by the commission.

2. A county superintendent may be appointed by the board of supervisors of the county, but he must understand that he is the representative of the commission in his county and is directly responsible to the commission. He is not under the direction of the board of supervisors in the performance of his duties, except that the board may direct him to inspect each county highway during its construction and improvement and certify to them the progress of the work and any irregularities of the contractor or failure to comply with the terms of the contract; but a certified copy of such report must also be filed with the commission.

3. Under no circumstances will a county superintendent undertake to direct an engineer in charge, or any other employee of the State in the performance of his duties on any contract, nor shall he undertake to advise or direct a contractor in the execution of his contract.

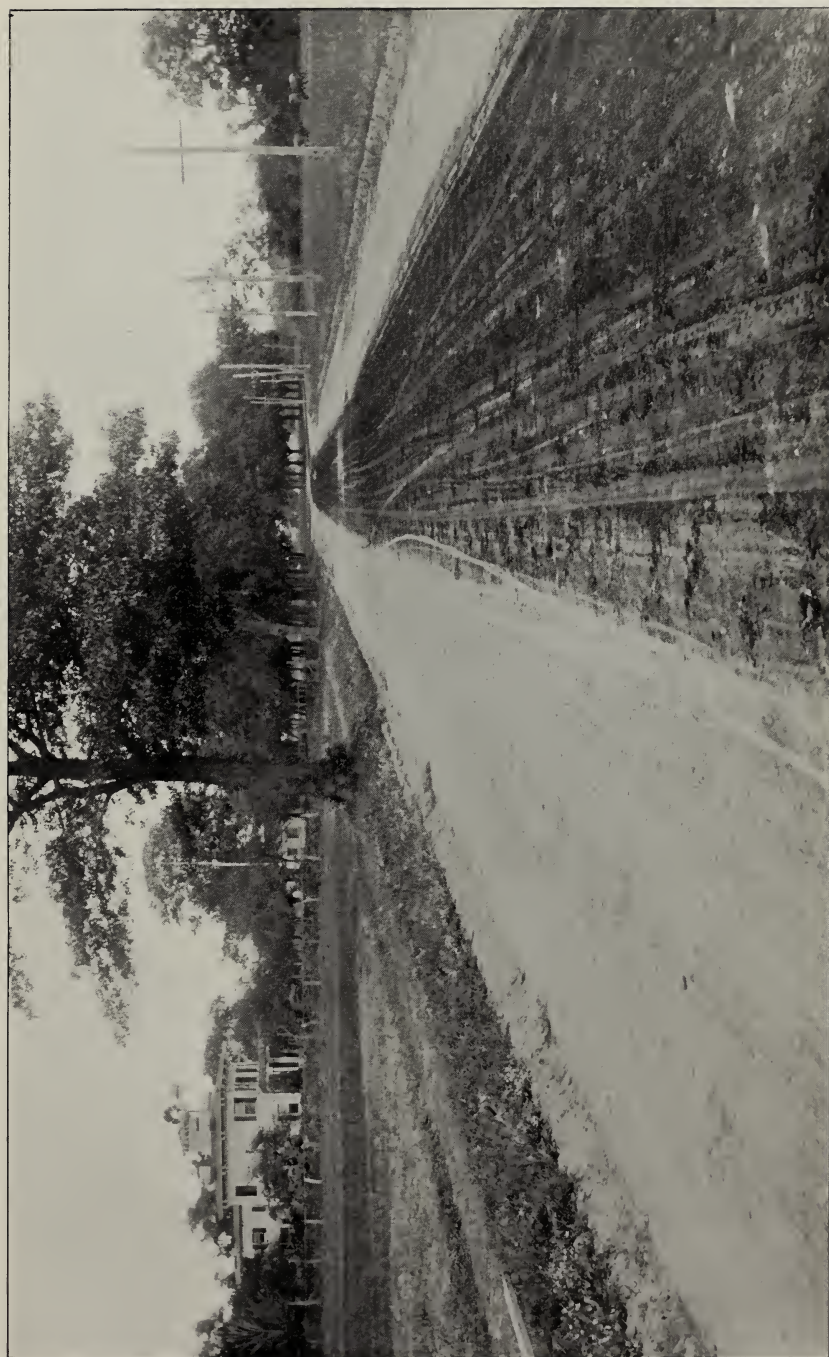
Advice of Division Engineers.

Second.—A county superintendent is directed to consult with the division engineer whenever, in his judgment, he may need advice and assistance in preparing or approving plans and specifications for the construction of highways and bridges.

NOTES.

1. It is the duty of the division engineer to consult with the county superintendent and to advise with him whenever called upon in respect to the proper method of constructing, improving and maintaining highways and bridges.

2. The county superintendent is directed to notify the commission and also the division engineer whenever, in his judgment, he finds a bridge to be unsafe for public use and travel.



SUFFOLK COUNTY.—Town of Riverhead. Town road of sand covered with a coat of loam, maintained by use of road bone. Surface oiled. Photo taken immediately after auto races.

State and County Highways.

Third.— County superintendents are to have no control or jurisdiction over State or county highways unless specifically directed by the commission.

NOTES.

1. The Highway Law provides that the town superintendent shall cause all ditches, culverts and waterways on State and county highways to be kept free from obstructions at all times, and also to cause snow and ice to be removed from the culverts and waterways on such highways. In this case it is the duty of the county superintendent to cause the law in this respect to be fully enforced.

2. The expense incurred in performing this work must be paid by the supervisor upon the receipt of a written order of the town superintendent and from funds in his hands available for the improvement, repair and maintenance of highways, including sluices, culverts and bridges having a span of less than five feet.

3. The fact that a road has been constructed as a State or county highway, and is to be maintained by the State, does not relieve the town superintendent from the performance of his duty. There can be no temporary abandonment of an improved road, and a district or county superintendent must require the town superintendent to perform his duty in this respect. Should a town superintendent fail to comply with this law, it is the duty of the district or county superintendent to notify him to immediately perform this work and also to make a proper report to the commission in relation thereto.

County Meetings.

Fourth.— County superintendents are directed to investigate as to when public meetings for a county or district should be held and to notify the commission, in writing, when and where, in their judgment, such meeting or meetings should be held.

NOTES.

1. These meetings are for the purpose of furnishing such instructions and information as may aid and assist town officers in the performance of their duties in respect to highways and bridges.

2. Meetings of this character should be held between the first day of November and the first day of April each year.

3. Meetings may be called during the spring, summer and autumn for the purpose of making practical demonstrations.

4. Whenever a public meeting is to be held the county superintendent must cause due notice to be mailed to each town superintendent and supervisor of the towns under his jurisdiction, and give such notice by advertisement as shall be directed by the commission.

Removal of Town Superintendent.

Fifth.—A county superintendent is directed to notify the commission, in writing, whenever a town superintendent shall have failed to perform his duty in compliance with the directions for the guidance of town superintendents, and also to notify the commission regarding any malfeasance or misfeasance in office.

NOTES.

1. It is the duty of the county superintendent, when directed by the commission, to make written charges and present the same in duplicate to the town clerk, and request the town clerk to serve the same personally upon the town superintendent, together with a notice directing him to appear before the town board at a time and place stated therein.

2. The district or county superintendent must understand that any failure on his part to comply with the directions of the commission in this respect will be sufficient cause for the commission to notify the clerk and chairman of the board of supervisors of such fact.

Inspections of Highways and Bridges.

Sixth.—The county superintendent should inspect the highways and bridges of each town in his district or county at least once each year, and advise and direct the town superintendent how best to repair, maintain and improve such highways and bridges.

NOTES.

1. The town superintendent has been furnished with directions for his guidance, and it is the duty of the district or county superintendent to thoroughly inform himself as to whether such directions have been fully complied with or not.

2. The agreements which have been regularly entered into between the town boards and town superintendents provide that no work of a permanent character shall be commenced until the district or county superintendent has granted the town superintendent a written permit therefor.

3. The same agreements provide that any money which may be held as a reserve fund by the supervisor, as custodian, may be expended for such purpose as the supervisor and district or county superintendent may determine. Therefore, the county superintendent is directed to make proper provision therefor.

Reports.

Seventh.—The county superintendent is directed to notify the supervisors, town superintendents and town clerks that all reports made by them must be first forwarded to him for his personal approval before transmitting the same to the commission.

NOTES.

1. The county superintendent in procuring from the supervisor the highway, bridge and miscellaneous report which must be made by the super-

visor to the town board at its meeting held each year on the Thursday succeeding general election, must be careful to observe the following directions:

- 1st. The law provides that the town superintendent shall make an estimate which may be approved or disapproved, increased or reduced by the town board at the meeting above stated.
- 2d. It is the intent of the law that this estimate shall be honestly made by the town superintendent, and the estimate thus honestly made shall be approved by the town board, thus providing funds in advance for the repair and improvement of highways, the repair and construction of bridges, the purchase and repair of machinery, tools and implements, the removal of obstructions caused by snow, and for other miscellaneous purposes.
- 3d. Under no circumstances may a county superintendent approve of a highway, bridge or miscellaneous report showing a deficit in any one of the above mentioned funds.
- 4th. He may approve of the transferring of money from any fund to the highway fund after the purpose for which such fund was raised has been served. He must thoroughly instruct and inform the supervisor and town superintendent that if the town superintendent gives any order in excess of the amount of money available in any fund, or incurs any liability in the employment of labor or purchase of material, that in no way can such fund be reimbursed or the supervisor or town superintendent relieved from liability, except that the proposition be submitted at a special or biennial town meeting and a vote of the electors of the town.
- 5th. A supervisor elected to take office must be required by a county superintendent to give a proper receipt, showing the amount of money turned over to him by his predecessor in office, and must then transmit a report thereof to the commission. Blank forms for such purpose will be furnished by the commission.

Inspection of Town Highways to be Improved.

Eighth.—The county superintendent is directed to instruct the town superintendent when to make a preliminary inspection of the roads which are to be improved as State or county highways for the purpose of securing preliminary information to be used in preparing plans and specifications for such highways, and also how to mark, or in some substantial manner designate the portions of such highways as may need especial care and attention.

NOTE.

1. It is important that the county superintendent shall either directly or indirectly procure information of this character to the end that any plans or specifications for the improvement of State or county highways may be properly made.

Monuments to be Erected.

Ninth.—The county superintendent is directed to assist the town superintendent in the erection of monuments showing the boundaries of the highways and in the establishment of such new monuments as may be required.

Plans and Specifications.

Tenth.—The county superintendent is directed to furnish or cause to be furnished to the town board, plans and specifications for the construction of new highways or the permanent improvement or reconstruction of existing highways, when the cost shall exceed five hundred dollars, provided that such money is to be expended by contract.

NOTES.

1. If a county superintendent is not a practical civil engineer he may request that such plans and specifications be furnished him by the division engineer.

2. No contract shall be awarded by the town superintendent until it has been approved by the county superintendent.

3. When the work is completed pursuant to the terms of such contract and the plans and specifications thus furnished, the acceptance thereof must be by the county superintendent.

4. Payments to be made under such contracts shall be made upon certificates issued to the contractor by the county superintendent, which must be attached to an order upon the supervisor, duly filled out by the town superintendent as provided by law.

5. All work under such contract shall be under the supervision of the county superintendent.

Purchase of Machinery.

Eleventh.—All contracts for the purchase of stone crushers, steam rollers or traction engines must be approved by the district or county superintendent and he must indorse his approval thereon.

NOTES.

1. No contract for such purpose shall be valid unless it shall have had the approval of the district or county superintendent.

2. It is the intent of the law in this respect to safeguard the town's interests in the purchase of proper machinery, and at the same time to protect the State's interests, because a contract may be made by the town superintendent, with the approval of the town board, to lease or hire such machinery and the expense thereof paid out of moneys levied and collected and paid by



SUFFOLK COUNTY.—Town of Riverhead. Town road of same nature and maintained in same manner as that shown on cut facing page 110.

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the State for the improvement of highways, and the moneys paid for such lease or hire may be a part of the purchase price in accordance with the contract.

Lease or Hire of Machinery.

Twelfth.—The county superintendent must observe the following ruling or construction of the commission relating to the lease or hire of machinery as provided by section 50 of the Highway Law, viz.:

Whenever the town superintendent has with the approval of town board made a contract with a machinery firm or corporation calling for a fixed sum to be paid each year for the lease or hire of a stone crusher, steam roller or traction engine, there must be a certification upon the order given by the town superintendent to the supervisor for such lease or hire showing the specific days which he has used the same during the period. The rate must *not* be more than ten dollars per day for a crusher or steam roller or eight dollars per day for a traction engine, and if the number of days which he has worked the same is not sufficient to pay the amount as agreed upon with the firm or corporation leasing or hiring the same, then the balance cannot be paid from the highway fund, but must be paid from the general fund of the town. If the number of days exceeds the minimum number of days necessary to furnish at the above rates an amount needed to pay the machinery company, then the total amount agreed upon as rental shall be divided by the number of days and the charge per day for a stone crusher, steam roller and traction engine shall be at that figure and not at the maximum figure under the provisions of section 50 of the Highway Law.

Drainage, Sewer and Water Pipes.

Thirteenth.—A county superintendent is directed to first obtain the consent of the commission before he grants permission for an overhead or underground crossing, or to lay and maintain drainage, sewer and water pipes in grounds within any portions of a state and county highway.

Measurement of Highways.

Fourteenth.—The county superintendent is directed to assist the town superintendent by directing him how, or by furnishing him with proper information so that he may properly

measure all the highways of his town in accordance with the directions which have been furnished him by the commission.

NOTES.

1. Blank forms for this purpose have been prepared and will be furnished by the commission.

2. The Bureau of Road Inquiry, connected with the Agricultural Department at Washington, requires the information contained in such blank.

Closing Highways.

Fifteenth.—The county superintendent is directed to carefully consider the fact that the traveling public must not be inconvenienced on account of the lack of care or inattention on the part of a contractor constructing or improving a State or county highway, or a town superintendent in performing the same class of work in not providing a temporary highway.

NOTES.

1. If, in the judgment of the county superintendent, it becomes necessary to close a highway, he must execute a certificate and file the same in the office of the town clerk.

2. Such certificate shall state the necessity for closing such highway and describing the portion thereof to be closed.

3. Not more than two miles of any highway shall be closed at any one time.

4. At the time of filing such certificate he must notify the town superintendent to close the highway. It then becomes the duty of the town superintendent to close the same to public travel by erecting suitable obstructions and posting conspicuous notices to that effect.

5. The county superintendent must ascertain the practicability of providing a new location and the construction of a temporary highway to be used by the traveling public, and to advise and direct the town superintendent how he may best erect temporary bridges, or cause other existing highways to be used.

Repair or Construction of Bridges.

Sixteenth.—The county superintendent is directed to either prepare, or cause to be prepared, plans and specifications for the erection of bridges, except that if a bridge to be repaired or rebuilt is one which has been condemned by the commission the same shall be repaired or rebuilt in accordance with plans and specifications prepared and approved by the commission.

Examinations of Deposits of Gravel and Stone.

Seventeenth.—The county superintendent is directed to examine the various formations and deposits of gravel and stone in his district or county, for the purpose of ascertaining the materials which are best available and suitable for the improvement of the highways therein.

NOTE.

1. The county superintendent must carefully preserve samples of such formations and deposits, together with a record showing the location of the same. This must be done so that he may be able to submit samples to the commission whenever requested to do so.

Establishment of Grades.

Eighteenth.—The county superintendent is directed to establish all grades in case of permanent improvement, and recommend means of drainage, repairs and improvement to the town superintendent or town board.

NOTE.

1. If the county superintendent should not be a practical civil engineer, plans and specifications and necessary information will be furnished him by the division engineer upon application.

Reports.

Nineteenth.—County superintendents are directed to report to the commission annually on or before the fifteenth day of November in each year.

DIRECTIONS FOR THE GUIDANCE OF TOWN SUPERINTENDENTS.

Annual Estimates.

First.—The town superintendent must make a written statement annually, on or before the 31st day of October, containing his estimate of amounts necessary to cover highway, bridge and miscellaneous expenses for the ensuing year, which must be divided into four parts, viz.:

1. Showing the amount of money necessary to be levied and collected for the repair and improvement of highways, including sluices, culverts and bridges having a span of less than five feet.

2. For the repair and construction of bridges having a span of five feet or more.

3. For the purchase, repair and custody of stone crushers, steam rollers, traction engines, road machines for grading and scraping, tools and implements.

4. For the removal of obstructions caused by snow and other miscellaneous purposes. (See Highway Law, § 90.)

NOTES.

1. This report must be filed with the town clerk on or before the 31st day of October, and the town superintendent must understand that the law requires him to specify the amount of money necessary for the repair and improvement of highways, including sluices, culverts and bridges having a span of less than five feet.

2. In making his estimate the town superintendent must remember: that his estimate should contain such amounts as he considers necessary to serve the several purposes for which they are to be raised, leaving it to the town board to separate and determine which may be ordered by it and which must be submitted to vote.

3. The town superintendent must cause noxious weeds growing within the bounds of the highways to be cut and removed at least twice in each year, once between the first and thirtieth days of July and once between the first and thirtieth days of September. He must also cause all briars and brush within the bounds of the highway to be cut and removed once between the first and thirtieth days of September in each year. It is, therefore, necessary that each town superintendent should include in his estimate, the amount of money necessary to defray the expenses incurred therefor.

4. The town superintendent must also include in the fourth item of his estimate:

- 1st. The amount of money necessary for the removal of obstructions caused by snow.
- 2d. The amount of money necessary for wire fences.
- 3d. The amount of money necessary for allowances for shade trees.
- 4th. The amount of money necessary for allowances for watering troughs.
- 5th. For expenses which may be incurred in establishing boundaries of highways and the erection of monuments, for the erection of guide boards, for the repair and construction of sidewalks.
- 6th. He may include his salary and expense.

Attendance at Town Board Meetings.

Second.—The town superintendent is directed to attend the meetings of the town board held on the Thursday succeeding general election in each year.

NOTES.

1. The town superintendent's annual estimate must not be approved by the town board at any time prior to the Thursday succeeding general election. The law is specific on this point.

2. It is presumed that the town superintendent shall have made an honest estimate and it is important that he attend this meeting so that he may be able to explain to the town board the items contained in the estimate, and how he arrived at the amounts therein contained.

3. It is especially important that the estimate made and approved by the town board be in sufficient amount to meet the expenditures provided by section 90 of the Highway Law, subdivisions 1, 2, 3 and 4, because, if at any time thereafter any one of these funds becomes exhausted and it is necessary to procure more money for such fund, the only way in which this can be done is by notification to the town board and the calling of a special town meeting and submitting the proposition to the vote of the electors of the town.

Organization of Forces.

Third.—The town superintendent is directed to organize his forces as soon as practicable after assuming the duties of his office by the selection and appointment of competent men to take charge of and to perform the highway and bridge work during the ensuing year.

NOTES.

1. Overseers of highways must not be appointed but the town superintendent may select a person or persons in parts or sections for the specific purpose of preventing obstructions caused by snow or the removal thereof. It is necessary that this should be done in order that the locality may receive prompt relief and attention.

2. Particular attention is called to the fact that the commission is prepared to furnish suggestions, directions and information relating to the prevention of obstructions caused by snow and the removal of the same by the use of a snow roller or other devices.

3. It is the duty of the town superintendent to employ such persons with teams and implements as may be necessary for the proper maintenance and repair of highways and bridges and the removal of obstructions caused by snow, and a list of the names of persons so employed with compensation paid to each must be filed in the office of the town clerk.

4. *The statement which must be filed in the office of the town clerk must show the compensation per hour and not by the day.*

5. It is not the intent of the law or the desire of the commission that the town board should interfere with the town superintendent in the employment of persons with teams and implements. The town board, however, should be thoroughly satisfied that no labor, teams or machinery are employed or hired at other than the prevailing prices, and that the same be of a character so that the work to be performed can be done in a creditable and economical manner.

6. Whenever the labor or teams employed are unable, in the judgment of the town board, to perform proper work, or the prevailing rate of wages or hire as paid by the town superintendent is excessive, the town board is requested to pass proper resolutions and notify the commission without delay.

7. The town superintendent is directed to carefully consider these suggestions in order that the prevention of obstructions caused by snow and the removal thereof may receive prompt attention and that the work upon the highways may be commenced in the spring as early as weather conditions will permit.

When Highway Work Must Be Done.

Fourth.—The town superintendent having organized his forces is directed as early as conditions in the spring will permit to cause the ditches, culverts and outlets to be cleaned; to cause the removal of all loose stone from the beaten track of the highway; to cause the filling of depressions and the shaping and crowning of the highways so that all work of this character will have been performed prior to the first day of June in each year, except that a special permit has been granted by the commission on application of the county superintendent.

NOTES.

1. The law provides that the town superintendent shall divide the town into as many sections as may be necessary for the proper maintenance and repair of the highways therein, and in dividing the town into parts or sections, such parts or sections should comprise a minimum of not less than twenty miles, although the local conditions may be such that the district or section should be larger according to the number of men and the kind and class of power employed.

2. The traveling public must not be annoyed or inconvenienced by reason of the public highways not having been placed in proper condition on or before the first day of June in each year, through the inefficiency or lack of interest on the part of the town superintendent and his appointees and employees.

3. The town superintendent must thoroughly understand that it is a useless waste of time, energy and money to attempt to work public highways by the use of a plow, ripper or road machine for grading and scraping during the summer and fall after the earth has become baked and hardened.

4. It is the opinion of the commission that better results can be accomplished by the use of steam rollers or traction engines for power. (See Highway Law, § 50.)

Shaping, Crowning or Turnpiking.

Fifth.—Town superintendents are directed under no circumstances to undertake the work of shaping and crowning or turnpiking a road where fall or early spring plowing has not been done, except in cases where material may be moved without introducing sod and vegetable matter into the bed of the road.

NOTES.

1. Particular attention is called to the fact that much money available for improvement, repair and maintenance of public highways in the towns of the state, has been wasted by the excessive and indiscriminate use of road machines for grading and scraping, and it is the intent of this rule and regulation and these notes to particularly define when improvements of this character can be used.

2. Before undertaking to shape and crown or turnpike a highway the town superintendent is directed to procure a written permit for such work from the county superintendent.

3. No work of this character must be performed until provision has been made for the purpose of straightening the ditch lines and widening the road to 24 feet in width between gutters or ditches, wherever practicable, and in no case must the road be narrowed to an extent that vehicles cannot readily pass.

4. In using the road machine for shaping and crowning, the work can be progressed faster and more economically by the use of a steam roller or traction engine instead of teams, but in using the same proper offsets should be provided so that the steam roller or traction engine may be kept in the middle of the road.

5. The town superintendent is directed in the performance of work of this character to use not less than three teams where steam is not used for power, hitched to a road machine, for shaping and crowning or turnpiking, so that the men employed in working the highway can occupy their time to the best advantage.

6. The town superintendent is directed to attach a harrow to the road machine whenever or wherever steam power is used but if teams are used the road must be thoroughly dragged immediately following the road machine.

7. While the work is in progress at the time of shaping and crowning a road sufficient help must be employed and an additional team with a wagon

with a dump box must be provided so that all of the loose stones, sod and organic matter found after the road has been thoroughly dragged can be hauled away.

8. The kind and class of teams and labor employed is the most important item in the cost and the energy of the town superintendent, who is the responsible head of the town in highway improvement, should be directed toward the utilization of all labor to the best advantage. The cost of proper road machinery, tools and implements is really chargeable to the entire mileage of the town and to a term of years and it will, therefore, be seen that the expense attached to each mile or each year is trivial.

9. A town superintendent must be painstaking and must understand the principles involved in highway construction and improvement. He must have practical ideas and be capable of organizing and utilizing labor to the best advantage.

Sixth.—All sod, loose stones and organic matter must be removed from the highway while the work is in progress. Under no circumstances shall sod, roots, organic matter, worn-out dust or mud be scraped from the ditches or sides of the road and placed on its surface.

NOTE.

1. The above rule is mandatory and under no circumstances will a town superintendent be permitted to carry on highway work in his town unless this rule is strictly complied with.

Instruction and Equipment.

Seventh.—The town superintendent, after having carefully selected persons with teams and implements and organized his forces, must then thoroughly instruct the men who are to have charge, and he must provide them with suitable tools, machinery and labor to properly perform the highway and bridge work of the town.

NOTES.

1. Inferior equipment is expensive and labor and teams should not commence work until proper equipment is provided.

2. Wagons must be provided with a dump box sufficiently large to hold a reasonable load of usually not less than one and a half cubic yards of road material as it takes but a little longer to haul a proper load. Proper care in this respect will save a large per cent. in cost.

3. Labor and teams must not be allowed to come to their work late and leave early. An honest day's work must be required in all instances. Compensation must be by the hour and not by the day and town superintendents will be held to strict account in this respect.

4. It is important that the town superintendent inspect all the machinery, tools and implements during the winter and insist that all necessary repairs be made to the same in order that the highway work may be commenced without delay in the spring as early as conditions will permit.

5. Parts of machines and implements such as scraper blades, plow points, whiffletrees, etc., which are liable to break or wear out, must be purchased and kept on hand at all times.

6. If, in the judgment of the town superintendent, new machinery, tools and implements are required, he must include the probable cost thereof in his annual estimate. If in his judgment, at any subsequent time, any machinery, tools and implements are required, he must immediately notify the supervisor of such fact.

7. The attention of the town superintendent is called to the fact that he must be very careful to estimate the amount of money necessary for the purchase and repair of machinery in the annual estimate which he must make in writing and file with the town clerk on or before the 31st day of October in each year.

Drainage.

Eighth.—As early in the spring as conditions will permit waterways, ditches and culverts must be opened and cleaned and the work of perfecting the drainage and improving the surface of the road commenced.

NOTES.

1. There must be no delay in commencing the work of opening and cleaning ditches and culverts as soon as the frost is out of the ground. Work of this kind can usually be performed before the work of improving the surface of the road can be commenced.

2. In opening ditches and culverts great care must be exercised in straightening the ditch line and in preserving the proper fall and grade so that the water may be quickly and easily carried away.

3. The town superintendent must be careful to get the water off the road, out of the road and away from the road.

4. The town superintendent must construct and keep in repair sluices and culverts and cause waterways, ditches and culverts to be kept open. He is especially directed to remove all earth, leaves and other rubbish from the ditches and culverts late in the fall.

5. The town superintendent is directed to thoroughly remove snow and ice from any culvert or sluice at any time it may become clogged with ice. This is especially necessary to protect the roadbed following thaws.

6. The digging of a gutter or building diagonally across the road a small dam, commonly called a "thank-you-ma'am," must never be permitted.

Under Drainage.

Ninth.—The town superintendent is directed to immediately commence the work of subdraining all roads within the town where it is apparent that a firm surface cannot be preserved or made by surface drainage.

NOTES.

1. It is not the purpose of the commission to fix a mandatory rule as to the kind and class of subdrainage but all town superintendents can doubtless secure the best results by the use of ordinary porous land tile.

2. Great care must be exercised in digging a ditch of sufficient depth which ought at no place to be less than two feet, six inches. In general the depth of a tile drain should be not less than three feet from the top of the tile and must always be carefully laid so that at all places a proper fall may be secured to the outlet thereof.

3. A town superintendent who is not thoroughly familiar with the principles of drainage of this character is directed to consult with the county superintendent. The importance of drainage cannot be overestimated and the consideration of this question by the town board is important. A well drained earth road is far superior to any other kind of a road poorly drained.

4. Under no circumstances will a town superintendent be permitted to surface any road with gravel or broken stone, slag or other material until the road has been prepared to receive the same by the use of adequate surface or subdrainage and no permits for permanent work will be granted by the county superintendent until work of this character is performed or else includes the same.

5. The particular attention of the town superintendent is called to the subject matter relating to the question of drainage published in this Bulletin.

Surfacing and Re-surfacing.

Tenth.—All roads which are to be surfaced or resurfaced with gravel, broken stone, or other road material, must first be thoroughly drained and graded in accordance with instructions given by the county superintendent, and when completed should have a crown of about one inch fall to the foot, excepting on steep grades where the fall should be increased.

NOTES.

1. The crown of a completed road on grades must in all instances be greater than the natural grade of the road itself, so that the water will more quickly flow to the ditches on either side.

2. A town superintendent must not undertake to perform work of this character upon the highways until he has received written instructions from the county superintendent in relation thereto and has been notified by him that he may perform such work.

3. Under no circumstances must water be allowed to stand in the roadway or in the ditches as it will cause the wearing surface to become softened and the result will be ruts, holes and depressions.

4. Gravel or other material must always be spread. The act of dumping compacts the material in spots and leaves the spaces between in such condition that depressions are formed and a series of mud holes will be the result. It is essential that the road be brought to a uniform shape and crowned after the gravel or other material is spread by the use of a road machine for grading and shaping, a harrow or drag, so that the whole surface may be of uniform wearing strength. Spreading the gravel or other material, as above directed, will prevent the rough appearance of many roads, which is caused by dumping one load in a place and raking off the top.

5. In spreading gravel or other material, large stones should be removed by raking them out and placing them forward so as to be under the material next to be placed on the surface.

6. The town superintendent may, with the approval of the town board, purchase gravel, stone, or other surfacing material at a price per cubic yard to be approved by the town board. The price of gravel in the bed or of stone in the fields or quarry is a small item. It is the cost of excavating and quarrying, together with the cost of hauling to the road, the labor and teams in perfecting the drainage, grading, and preparing the surface and putting the material in place that create the expense.

Removal of Loose Stone.

Eleventh.—All loose stone lying within the beaten track of every highway must be removed at least three times every year between the 1st day of April and the 1st day of December.

NOTES.

1. Loose stone lying within the beaten track of the highway must not be allowed to remain therein even though the law requires that they shall be removed at least three times each year.

2. Stone so removed must not be thrown into the gutter or grass adjoining the highway, but shall be conveyed to some place from which they will not work back or be brought back into the beaten track.

3. The town superintendent must remove loose stone, sod, and organic matter while highway work is in progress.

Depressions.

Twelfth.—All holes, ruts, and depressions must be filled with the best available material and the town superintendent is directed to be very careful to preserve the crown of the road so that the water can easily and quickly flow to the ditch on either side.

NOTES.

1. This can be accomplished by the use of a road hone or rut scraper.

2. Road hones or rut scrapers can be constructed at a very slight cost or can be purchased of most any concern manufacturing road machinery.

3. Road hones or rut scrapers should be drawn over the road following storms and showers when the road is beginning to dry, starting at the ditch and forcing the loose material into the ruts and toward the center which keeps the road free from ruts, holes and depressions.

4. The particular attention of the town superintendent is called to the fact that depressions at the approaches to culverts and bridges must be promptly filled and the surface kept to grade.

The Use of Road Machines.

Thirteenth.—Town superintendents are directed to cease using road machines except in shaping and crowning or turnpiking roads.

NOTE.

1. It has been the common practice year after year to use road machines for rut scraping and filling depressions when much better results could have been accomplished at one-third the cost by the use of a road hone or rut scraper.

2. There may be exceptions to this rule and in such cases a town superintendent may use road machines at such times and at such places to perform work as may be directed by either the district supervisor or the county superintendent.

Sluices, Culverts and Bridges.

Fourteenth.—In the repair and construction of all sluices, culverts and bridges having a span of less than five feet, the town superintendent must be very careful to so construct and repair the same that they will carry a steam roller or traction engine, and they should always be constructed large enough to enable flood water to quickly flow away.

NOTES.

1. The length of all sluices or culverts must under no circumstances be less than the width of the road and they must be set low enough so that the traveled portion or surface of the road will be straight and smooth and form a perfect grade.

2. On grades all sluices and culverts should be constructed diagonally across the road and not at right-angles.

3. Sluices and culverts of the wooden box type must not be constructed unless special permission be granted by the commission, nor must tile alone be used for such purposes.

Removal of Obstructions.

Fifteenth.—The town superintendent is directed to cause the removal of all obstructions within the bounds of the State, county and town highways.

NOTES.

1. Owners and occupants of lands should be encouraged to preserve the trees by the roadside, but the town superintendent must not permit an excessive number of trees to stand, particularly so where they cause too much shade and prevent the road from drying, but no trees shall be removed excepting that a written permit be granted by the county superintendent.

2. Branches of trees overhanging the highway so as to interfere with the public travel must not be permitted and the town superintendent is directed to either remove them or cause the same to be done.

3. The town superintendent must not permit the highways to be used for piling lumber, wood, logs, or stones therein, and he must not allow machines, vehicles, and implements to be abandoned or habitually placed therein.

4. The town superintendent is directed to prohibit owners and occupants of land using shade trees within the bounds of the highways for fencing or other purposes and under no circumstances must he permit the same to be mutilated by telegraph, telephone or trolley companies.

Repairs to Highways and Bridges.

Sixteenth.— Under no circumstances must a town superintendent construct a bridge having a span of five feet or more unless it is in accordance with plans and specifications prepared or approved by the county superintendent.

NOTES.

1. The construction of any bridge by a town superintendent not in accordance with plans and specifications prepared or approved by the commission or the county superintendent is an illegal act.

2. In order that there may be no mistake town superintendents must understand that a town board has no authority or right under any circumstances to direct a town superintendent to proceed in any other manner except in accordance with the plans and specifications as above defined.

Repairs to Highways and Bridges.

Seventeenth.— The town superintendent must cause the highways and bridges to be kept in repair and free from obstruction and inspect the highways and bridges during the months of October and April of each year.

NOTES.

1. In making the inspection during the month of April he should invite the supervisor and members of the town board to accompany him to such sections or portions of highways which, in his judgment, need special care and attention.

2. The April inspection must be made as early as possible in the month so that proper directions may be given for the work being performed upon the various parts or sections.

3. When making his October inspection the town superintendent should also invite the supervisor and members of the town board to accompany him to those parts or sections which need extra care and attention and to bridges which need extra repairs or reconstruction, as this inspection is made for the purpose of gaining information on which he should base his estimate or statement to the town board on the 31st day of October.

Blank Forms.

Eighteenth.—Blank forms of orders, reports and accounts and blank-books will be furnished by the commission, when in their judgment they are required for their use and also for the convenience of highway officers.

NOTES.

1. The stub attachments to the blank forms of orders in the order books must be carefully filled in and retained by the town superintendent as a town record, and filed with the town clerk upon the 31st day of October in each year.

2. This is in accordance with the Highway Law, which provides that the commission shall prescribe and furnish blank forms of orders to be used by the town superintendent and supervisor in keeping accounts of moneys received and paid out.

Collection of Penalties.

Nineteenth.—The town superintendent must collect or enforce the collection of all penalties.

NOTES.

1. He must assess the cost against owners and occupants for failure to remove obstructions and also for failure to cut and remove noxious weeds, briars, brush, shrubbery, and other obstructions within the highway causing the drifting of snow.

2. He must assess the cost against telephone, telegraph, electrical railway, and other electrical companies for failure to remove and reset telephone, telegraph, trolley, and other poles and wires connected therewith when the same shall constitute an obstruction to the use of the highway by the traveling public.

3. He must enforce the law which relates to drainage, sewer and water pipes, cattle passes and other crossings in the highway. (See Highway Law, § 60.)

4. He must enforce the collection of a penalty of ten dollars for depositing and throwing loose stone in the gutters or grass adjoining the highway or for depositing and throwing upon the highways ashes, papers, stones, sticks, or other rubbish. (See Highway Law, § 328.)

5. He must enforce the collection of treble damages for injury to any highway or bridge, or obstructing or diverting any creek, water course or sluice, or by dragging logs or timber on its surface, or by drawing or propelling over the same a load of such weight as to injure or destroy the culvert or bridge along the same, or of such weight as will destroy, break, or injure the surface of any state, county or town highway, or defacing or destroying any milestone or guide post erected on any highway. (See Highway Law, § 330.)

6. He should thoroughly enforce the provisions of section 334 of the Highway Law, which relates to injury to fruit or shade trees; section 335 of the

Highway Law, which relates to the falling of trees within the bounds of the highway, a river or stream; and section 336, which relates to the removal of trees which have fallen within the bounds of the highway.

7. Section 337 of the Highway Law provides that all penalties and forfeitures shall be recovered by the town superintendent in the name of the town in which the offense is committed. After such recovery he must immediately place the same in the hands of the supervisor, who is the custodian.

Working Plans.

Twentieth.—It is the duty of the county superintendent to advise and direct town superintendents how best to repair, maintain and improve highways and bridges. The town superintendent is directed not to hesitate to request the county superintendent to furnish him with working plans for the improvement or repair of any highway or bridge, and also to furnish him with a list of State and county highways to be constructed.

NOTES.

1. It is the duty of the town superintendent to carefully inspect State and county highways designated for improvement in the spring and fall of each year, and to mark or in some substantial manner indicate the portion of such designated highways which may need special care and attention in the preparation of plans, specifications, and estimates.

2. He should then carefully prepare recommendations in respect thereto and forward the same to the county superintendent.

3. In case the county superintendent fails to provide the town superintendent with plans and specifications for highways or bridges he should immediately notify the commission.

When to Commence Permanent Improvements to Highways.

Twenty-first.—Under no circumstances must a town superintendent undertake to perform work designated in the agreement between the town board and himself as “permanent improvement” until he has received a written permit from the county superintendent.

NOTE.

1. This is for the purpose of enabling the county superintendent to exercise the proper supervision as required by section 33 of the Highway Law and to carry out the rules and regulations as prescribed by the commission.

Watering Troughs.

Twenty-second.—Watering troughs must be supplied with fresh water and the surface of the same must be three feet

above the level of the ground and easily accessible for horses with vehicles, and when possible such troughs must be located on the lower side of the highway.

NOTES.

1. The town superintendent should be careful to note the location of watering troughs and to require the replacing and reconstruction of the same to comply with this section.

2. Watering troughs should be constructed high enough so that horses can be watered without unchecking of a single or double team.

3. Watering troughs should always be on the lower side of the road excepting where the flow can be readily carried away either by an open ditch or by a culvert or sluice without injury to the surface.

4. Keep the water off the road, out of the road, and away from the road.

Approaches to Private Lands.

Twenty-third.—The town superintendent must insist upon the construction and repair of approaches to private lands, unless the town board takes appropriate action making the expense thereof a town charge.

NOTES.

1. When directed by the town board the expense of construction and repair to approaches shall be a town charge; therefore the town superintendent should call the attention of the town board to this question at least once each year and should ask them to pass a proper resolution.

2. If the town board fails to take action it is the duty of the town superintendent to strictly enforce the provisions of law and insist upon a full compliance on the part of the owner or occupant of the lands.

Not to Exceed Appropriations.

Twenty-fourth.—The town superintendent does not have the right or authority to exceed appropriations or to incur indebtedness which shall be binding upon the town.

NOTES.

1. At least once a month the town superintendent should ask the supervisor to furnish him with a statement showing the amount of money on hand for the purposes as defined by section 90, subdivisions 1, 2, 3 and 4.

2. If he exceeds his appropriation the responsibility is his alone unless the electors of the town should see fit, through the medium of a vote, to provide means for his relief.

3. The Highway Law provides means for furnishing him with a certain amount of money which in his judgment and in the judgment of the town board is deemed necessary for the purpose of administering the duties of his office.

4. If the town superintendent has, without the vote of the town, incurred liability not provided for by law he must understand that the excess cannot properly be regarded as a town charge.

5. He has no power or authority, except as provided by law, to bind the town by his individual contract or undertaking, and is individually responsible to those with whom he contracts if any responsibility is thereby incurred. His various duties and obligations are explicitly defined by statute.

Storage of Tools, Implements and Machinery.

Twenty-fifth.—The town superintendent is directed to provide a suitable place for housing and storing all machinery, tools and implements owned by the town and cause the same to be stored therein when not in use.

NOTES.

1. All road machines, steam rollers, stone crushers, tools, and other implements owned by the town or highway districts must be cared for by him at the expense of the town and he should be very careful to provide for such expense in the third item of his statement or estimate which he is required to file on the 31st day of October in each year.

2. The expense incurred for this purpose is a town charge and must not be paid out of funds raised by taxes for the improvement and repair of highways and sluices having a span of less than five feet, or from moneys received as State aid.

Superintendent and Manager.

Twenty-sixth.—The town superintendent should understand that he is the superintendent or manager of highway and bridge improvement, repair and maintenance in his town.

NOTES.

1. It is his duty to organize his forces, give thorough instructions and direct the kind and class of work to be performed, subject, however, to such directions as he may receive from the county superintendent or from the commission or a direct representative of the commission.

2. It is not desirable that a town superintendent should undertake to operate a road machine for grading and scraping or to take personal charge of a separate force of men, except in very small towns.

3. It may be difficult to secure the services of suitable men to operate road machines for grading and scraping, therefore he should carefully consider this fact where such conditions exist and make provisions therefor during the winter and early spring when he is organizing his forces.

Adoption of Agreement.

Twenty-seventh.—The town board and the town superintendent constitute a board for the purpose of determining the places where and the manner in which moneys shall be expended.

NOTES.

1. The town clerk is a member of the town board and is also a member of this board and is entitled to a vote.

2. The town superintendent must not incur any liability or perform any work or cause the same to be done upon any highway until an agreement has been entered into and signed in duplicate by a majority of the board so constituted and until the agreement has been approved by the commission.

3. It is not necessary that an agreement be entered into for the expenditure of moneys as provided by items 2, 3 and 4 of the estimate.

Expenditures.

Twenty-eighth.—The supervisor is the custodian of all highway and bridge moneys and pays out the same on the order of the town superintendent.

NOTES.

1. In the directions for the guidance of supervisors it is stated that he must not under any circumstances disburse any money held by him for any purpose specified by the Highway Law except upon the written order of the town superintendent.

2. Blanks in book form furnished by the commission for the use of the town superintendent in giving orders upon the supervisor are not transferable and must only be honored by the supervisor at such times as may be agreed upon between the supervisor and the town superintendent.

3. It is bad practice for a town superintendent to give orders on the supervisor except at stated times and no order given by a town superintendent will be honored or paid by the supervisor except it has been presented to the supervisor within twenty days after the date of the order.

4. In order to simplify the work of the supervisor in keeping a uniform system of town accounts, he is urged by the commission to enter into an agreement with the town superintendent in establishing a semi-monthly or weekly pay day and no orders given for the repair or improvement of highways should be paid by him except on such agreed and stated pay day.

5. The town superintendent is directed to observe one of the following plans, viz.: After an agreement has been made between the supervisor and the town superintendent for the establishment of a pay day, which must be semi-monthly or weekly, the town superintendent may then on a day prior to such established pay day submit his orders to the supervisor for inspection and if the amount represented by such orders meets with the supervisor's approval the supervisor may advance the amount thereof and take a temporary receipt from the town superintendent therefor. The town superin-

tendent may then retain the order book with the orders attached, and regularly filled out, but not endorsed by the payee, and take the money so advanced, thus enabling him to pay each order after the proper certificate has been signed on the back thereof. When the town superintendent again submits the orders duly made out, prior to the next established pay day, for another advance of money as above indicated, he may then deliver the orders with the certificate on the back thereof duly signed and demand the temporary receipt previously given to the supervisor by him, after surrendering to the supervisor any unpaid orders and the cash represented thereby. Or,

Secondly. The town superintendent may present to the supervisor all orders duly executed with the certificates signed on the back (this is common practice in State affairs) and the supervisor may then draw his personal checks payable to the order of each payee represented thereby, or he may adopt the pay envelope system commonly in vogue.

6. All moneys received and collected or raised by the issue or sale of bonds or certificates of indebtedness for purposes other than those for which an agreement is required can only be paid out by the supervisor after audit by the town board or town board of auditors, but the town superintendent is required to make an order upon the supervisor and attach the order to any bill that may be presented before such account or bill may be audited and paid.

7. The town superintendent when organizing his forces must have a perfect understanding with all employees to the effect that no payments shall be made except on pay days as established, and that payment shall be made by the supervisor *upon the superintendent's order*.

Appointment of Deputy Town Superintendent.

Twenty-ninth.—A deputy town superintendent may be appointed by the town board to assist the town superintendent in the performance of his duties.

NOTES.

1. If the town superintendent desires an assistant he should notify the town board, in writing, of that fact and at the same time he may name the person he deems qualified.

2. The assistant thus selected and appointed by the town board can only act as such when his services may be required by the town superintendent.

Inventory of Machinery, Tools and Implements.

Thirtieth.—The town superintendent is directed to make a careful inventory of all machinery, tools and implements owned by the town or the districts therein, and file the same with the supervisor on the 31st day of October in each year.

Compensation.

Thirty-first.— The town board must fix the compensation of the town superintendent and the deputy, if there be one, which shall not be less than two dollars and not more than five dollars per day.

NOTES.

1. The actual necessary expenses incurred by the town superintendent and his deputy, if there be one, in the performance of their duties must be paid by the supervisor monthly in advance of audit from moneys levied and collected for such purpose.

2. The compensation of the town superintendent and his deputy, if there be one, and the expenses incurred by them, is a town charge. And none of the highway moneys annually raised by tax in the town for highway purposes or which the town receives as State aid can be used to directly or indirectly pay any part of the expenses incurred, or for any services performed by the town superintendent or his deputy.

DIRECTIONS FOR THE GUIDANCE OF SUPERVISORS.

First.—After the town superintendent has made his written statement or estimate specifying the amount of money necessary to be levied and collected,

1. For the repair and improvement of highways, including sluices, culverts and bridges having a span of less than five feet.

2. For the repair and construction of bridges.

3. For the purchase, repair and storage of machinery, tools and implements.

4. For the removal of obstructions caused by snow and other miscellaneous purposes;

and after the town board at its meeting on the Thursday succeeding the general election has approved, increased or reduced the estimate of the town superintendent, the supervisor must then obtain his duplicate copy for presentation to the board of supervisors.

NOTES.

1. The especial attention of the supervisor is called to the fact that under no circumstances must the amount of the estimate, as approved by the town board, be increased or decreased. *The exact amounts in the estimate must be levied*, except as directed in notes 3 and 4.

2. The supervisor should first ascertain the equalized assessed valuation of his town, and divide that amount by the number of miles of road in his town outside of incorporated villages to ascertain the amount of assessed valuation per mile of road.

3. Provided the amount of the estimate as approved by the town board is less than the minimum amount required by law to be raised, which is an amount of money which, when added to the amount of money to be paid by the State as State aid, will equal thirty dollars per mile, then the supervisor is authorized and must increase the amount of the estimate to the necessary amount.

4. In case the estimate is increased as directed in note 2, the supervisor is directed to immediately cause the estimate on file in the town clerk's office to be corrected, and direct the town clerk to forward a corrected estimate to the county superintendent.

5. In determining the amount of money necessary to make the minimum thirty dollars per mile, the supervisor will be aided by the following table, which shows the amount which must be raised by the town according to the valuation per mile:

On valuations less than \$3,751 the tax must be \$4 on each \$1,000 assessed valuation.

On valuations from \$3,751 to \$4,999.99 raise \$15.00 per mile

On valuations from 5,000 to 6,999.99 raise 15.79 per mile

On valuations from 7,000 to 8,999.99 raise 16.67 per mile

On valuations from 9,000 to 10,999.99 raise 17.65 per mile

On valuations from 11,000 to 12,999.99 raise 18.75 per mile

On valuations from 13,000 and over raise 20.00 per mile

6. The supervisor should explain to the town board the necessity for approving the town superintendent's estimate for an amount sufficient to meet any and all necessary expenses that, in their honest judgment, may be incurred during the ensuing year.

7. The supervisor must understand that no provision is made by law for raising money for any purposes provided for by the Highway Law unless it is included in the estimate approved by the town board, excepting that necessary moneys therefor may be transferred from the excise fund or any other funds of like character.

8. In the estimate of the town superintendent, as approved by the town board, if no provision is made for necessary expenses under items 2, 3, and 4, or all of them, a memorandum must be made opposite each item stating from what fund or funds the necessary money to meet such obligations is to be obtained. This is essential in order that the estimate forwarded to the commission may be properly checked and placed in the permanent files.

9. In October of each year the supervisor will find it to his advantage to accompany the town superintendent when making inspection of highways and bridges, or the supervisor himself should personally inspect such highways or sections thereof, and bridges which, in his judgment, might need especial attention. This will enable him to become familiar with the general conditions of the highways and bridges within the town, to the end that he may be able to assist the town superintendent in making his annual statement or estimate.

10. The possession of this information would also enable him to make proper recommendation to the town board in relation to the approval or modification of such statement or estimate.

11. The law does not intend that the amount of the first item should be extended as a separate tax, but should be treated as other town charges are. In towns having incorporated villages it will be necessary to make a multiplier or tax ratio for property within the village and a different one for that outside the corporation, but all the tax of the town should be extended in a single column.

12. The Commission suggests that the estimates be referred to a committee of the board of supervisors, and that the committee use the following as being a convenient and practical form in levying these taxes:

RESOLUTION offered by the committee on _____ through its chairman, Mr. _____, levying a tax upon the taxable property of the several towns in _____ county, for highway purposes as provided by sections 90 and 91 of the Highway Law:

Whereas, The town superintendents of the several towns of county have made an estimate of the amount of money necessary to be raised by tax for the improvement of the highways and bridges and other miscellaneous highway purposes of their respective towns, as provided by section 90 of the Highway Law; and

Whereas, The respective town boards have approved or changed said estimates, as provided by section 91 of the Highway Law,

Therefore, Be It Resolved, That the said estimates as approved by the town boards be received and the sum set opposite the name of the respective towns in the column which bears the heading, "Amount of 1st Item" (which is the amount of the First Item in said estimates), be assessed, levied and collected upon the taxable property of the respective towns, exclusive of the property within the limits of the incorporated village or villages of their respective towns which maintain their streets and highways as a separate road district, and be it further

Resolved, That the sum set opposite the names of the respective towns, in the columns which bear the heading, "Amount of 2nd Item," "Amount of 3rd Item" and "Amount of 4th Item" (which is the amount of the Second, Third and Fourth Items of said estimates as approved by the various town boards) be assessed, levied and collected upon the entire taxable property of the various towns of county, as follows, that is to say:

<i>Name of town.</i>	<i>Amount of 1st Item.</i>	<i>Amount of 2nd Item.</i>	<i>Amount of 3rd Item.</i>	<i>Amount of 4th Item.</i>
.....
.....
.....
.....

And that the several amounts when collected shall be paid to the supervisors of the respective towns, to be paid out by them as provided by law.

.....
Chairman.

Committee.

Custodian.

Second.— The supervisor is the custodian of all moneys levied and collected and paid to the town by the State, as provided in the Highway Law, and all moneys collected as penalties or received from any other source and available for highways, bridges and miscellaneous highway purposes.

NOTES.

1. The supervisor is directed to deposit in such bank as he may select, in a separate and special account, all moneys received by tax, which must

be indicated in the first item of the estimate as approved by the town board, and all moneys received from the State as State aid, and also any moneys received from any source whatever for the repair and improvement of highways.

2. Money given to a town by private individuals for specific purposes, or for general highway improvement, should be placed in the hands of the supervisor as custodian, and the supervisor is then accountable therefor.

3. Before receiving such moneys, the supervisor must give a bond or undertaking, which must be approved by the town board, and the law requires that the commission shall approve the bond as to its sufficiency, but the commission will not pass upon the sureties on the bond.

4. The commission has prepared a blank form of bond which will be furnished to supervisors and it is the desire of the commission that these bonds be used.

5. The commission specifies the amount of the bond to be furnished by the supervisor, to be in a sum equal to twice the amount of money which the supervisor is to receive for highway purposes. In cases where individual bonds are given and where surety company bonds are given the amount of the bond shall be for an amount equal to the amount of highway monies to be received.

6. The bond or undertaking must be filed in the office of the town clerk, and a certified copy of the same must be filed in the office of the county treasurer before any moneys can be paid to the supervisor. A certified copy of the bond or undertaking must also be filed in the office of the commission at Albany for approval as to its sufficiency, before receiving any moneys from the county treasurer.

Disbursements.

Third.—The supervisor must not, under any circumstances, disburse any moneys held by him for any purposes specified by the Highway Law, except upon the written order of the town superintendent.

NOTES.

1. Blanks in book form, furnished by the commission for the use of the town superintendent in giving orders upon the supervisor, are not transferable, and must only be honored by the supervisor at such time as may be agreed upon between the supervisor and the town superintendent.

2. It is bad practice to allow a town superintendent to give orders on the supervisor except at stated times, and no order given by a town superintendent should be honored or paid by the supervisor except it has been presented to the supervisor for payment and entry upon the account book furnished by the commission within twenty days after the issuance thereof.

3. In order to simplify the work of the supervisor in keeping a uniform system of town accounts, he is urged by the commission to enter into an agreement with the town superintendent establishing a semi-monthly or weekly pay day, and no orders given for the repair and improvement of highways should be paid by him except upon such agreed and stated pay days.

4. The supervisor is directed to observe one of the following plans, viz: After an agreement has been made between the supervisor and the town

superintendent in the establishment of a pay day, which must be semi-monthly or weekly, the town superintendent may then, on a day prior to such established pay day, submit his orders to the supervisor for inspection, and if the amount represented by such orders meets with the supervisor's approval, he may advance the amount thereof and take a temporary receipt therefor. The town superintendent may then retain the order book with the orders attached and regularly filled out but not endorsed by the payee, and take the money so advanced, thus enabling him to pay each order after the proper certificate has been signed on the back thereof. When the town superintendent submits the orders duly made out, prior to the next established pay day, for another advance of money as above indicated, he may then deliver the orders detached from the order book, with certificates on the back thereof duly signed, and demand the temporary receipt previously given to the supervisor by him after surrendering to the supervisor any unpaid orders and the cash represented thereby. Or, secondly, the town superintendent may present to the supervisor all orders duly executed, with the certificates signed on the back (this is the common practice in State affairs), and the supervisor may then draw his personal checks payable to the order of each payee represented thereby, or may adopt the pay envelope system commonly in vogue.

5. All moneys received and collected, or raised by the issue or sale of bonds or certificates of indebtedness for purposes other than those for which an agreement is required, can only be paid out by the supervisor after audit by the town board, or the town board of auditors.

6. Special attention of the supervisor is called to the fact that no accounts must be audited or paid unless the expenditure be in accordance with the annual estimate of the town superintendent, as approved by the town board, or after authorization of the town board, and subsequent to a vote of the electors of the town at a biennial or special town meeting, except in the case of transfer of moneys from other funds.

7. Bills and accounts for highway, bridge and miscellaneous purposes cannot be audited and paid unless actual proof has been made therefor, and under no circumstances must a liability be incurred against the town, excepting that the money necessary to meet such liability is on hand and available.

8. Should the supervisor discover that the town superintendent is performing work, or causing the same to be performed, contrary to the provisions of the agreement, he should immediately notify the commission of such fact so that an investigation may immediately be made and charges be preferred against the town superintendent, in accordance with section 46 of the Highway Law, which provides for the removal of the town superintendent.

9. The town superintendent is directed to, at least once each month, ask the supervisor to furnish him with a statement showing the amount of money on hand for purposes defined by section 90, subdivisions 1, 2, 3, and 4; and the supervisor is directed to furnish him with such statement so that the town superintendent may have no excuse for causing work to be performed without there being funds available therefor.

Supervisor's Report.

Fourth.—The supervisor shall present to the town board and the town board of audit, if there be one, at the meeting held on the

Thursday succeeding general election, his uniform system of accounts, together with all vouchers, and his verified Highway, Bridge and Miscellaneous Report for audit.

NOTES.

1. It is clearly the intent of the Highway Law that these accounts and reports must be audited at this meeting.

2. The form of this report is prescribed by the commission and is in the back of the account book, which must be filed in the office of the town clerk, and be open to public inspection during his office hours.

3. The supervisor is directed to call the attention of the town clerk to the fact that it is his duty to provide the supervisor with a certified copy of the Highway, Bridge and Miscellaneous Report, which is to be filed by him with the clerk of the board of supervisors for publication in the proceedings of the board; also that it is the duty of the town clerk to furnish the town board with a certified copy to be published in a newspaper as required by law.

4. The supervisor is directed to call the attention of the clerk of the board of supervisors to the fact that it is his duty to transmit three copies of the journal of the proceedings of the board containing such report to the commission, and three copies to the comptroller.

Uniform System of Town Accounting.

Fifth.—The supervisor is directed to keep the account book which is furnished by the commission, in accordance with the directions printed on the inside of the front cover.

NOTES.

1. This account book must be regularly kept, so that auditors of accounts, or other representatives of the commission, may be able to promptly inspect the same and make their required report to the commission.

2. Under no circumstances shall the supervisor allow orders given by the town superintendent to accumulate prior to entry upon the account book.

3. Under no circumstances shall the supervisor accept or pay an order of the town superintendent unless the blank form of order prescribed by the commission is used.

4. All orders and records of accounts must, at the end of the fiscal year, be filed in the office of the town clerk and preserved as a part of the town records.

5. The supervisor, town clerk and town superintendent must produce all records and accounts for examination and inspection at any time on the demand of a representative of the commission.

Compensation of Supervisor.

Sixth.—The supervisor is directed to call the attention of the town board to the foregoing directions, in order that the town

board may intelligently fix his compensation for such services, as provided by section 110 of the Highway Law.

NOTE.

1. All moneys paid to the supervisor for services rendered in receiving and paying out moneys, as provided by the Highway Law, and the keeping of the necessary accounts, is a town charge, and is not chargeable against any fund raised for any other purpose.

2. The compensation fixed by the town board is in lieu of all other fees or compensation heretofore allowed the supervisor for his services under the Highway Law.

DIRECTIONS FOR THE GUIDANCE OF TOWN CLERKS.

First.—Town clerks are directed to prepare and forward to the commission, within ten days after due qualification, correct lists showing the names, postoffice addresses, date of appointment or election, and the expiration of the terms of office of the following officers, namely: Supervisors, town clerk, justices of the peace, town superintendent and assessors.

NOTES.

1. Blank forms for the use of town clerks in furnishing the above information will be furnished by the commission.

2. In preparing such list the town clerk is particularly requested to be very careful and furnish the full Christian name of each officer; and he should also be very particular to thoroughly inform himself as to the actual post-office addresses, so that there may be no unnecessary delay in the transmission of mail or other matter to each individual by the commission.

3. Any failure on the part of the town clerk to furnish the information as directed by the commission or comptroller is a breach of contract on the part of the town, and might be a cause for withholding the moneys otherwise due the town from the State, as State aid.

Member of the Town Board.

Second.—The town clerk is a member of the town board. (See Town Law, § 160.)

NOTES.

1. The board, for the purpose of determining the places where, and the manner in which moneys for highway and bridge purposes are to be expended, is constituted as follows, viz: The supervisor, town clerk, justices of the peace, and town superintendent.

2. An agreement for the expenditure of money for the repair and improvement of the town highways must be entered into and signed in triplicate by a majority of the members of the board so constituted.

3. The town clerk must forward these three agreements to the commission. If approved, one copy will be returned by the commission to the town clerk, which must be filed in his office, and one copy will be forwarded to the district or county superintendent. The third copy will be retained by the commission.

Compensation of Town Clerk.

Third.—The town clerk is directed to call the attention of the town board to the duties which he must perform, in order that they may properly fix the compensation for his services, as provided by the Town Law.

NOTES.

1. The town board may fix the compensation in advance, or compensation may be made after services shall have been rendered. The compensation to be fixed by the town board is purely a question for the town board to decide, as to the amount thereof or whether a system of compensation shall be adopted, commonly known as the "fee" system. It is, however, suggested that the town board should not act hastily, and that the compensation shall not be fixed until the town board has thoroughly satisfied itself as to the value of his services.

2. Any money paid to the town clerk for services shall not be charged against any fund, except that it is raised for such purpose.

Filing of Town Records.

Fourth.—The town clerk is directed to carefully observe the provisions of the Highway Law which relate to the filing of records and also the rules and regulations of the commission which relate thereto. He is, therefore, directed to receive and file,

First.—The supervisor's book of uniform highway, bridge and miscellaneous accounts in which is bound his annual report.

Second.—All orders from the town superintendent on which payments have been made.

Third.—The town superintendent's stub books from which said orders were drawn.

Fourth.—A list of persons employed by the town superintendent with the compensation paid to each and the capacity in which they are employed.

Fifth.—All bids for contracts and contracts awarded.

Sixth.—The recommendations of the district or county superintendent as to what machinery, tools and implements should be purchased.

Seventh.—Any orders, together with any maps or diagrams which may show the location of sidewalks and trees, certified to by the town superintendent.

Eighth.—The report of the town superintendent showing the mileage of highways in accordance with blank report furnished by this department.

Ninth.—Certificates issued by the district or county superintendent relative to the closing of highways during repair and construction.

Tenth.—The bond of the supervisor of which he shall also make two certified copies and forward one to the county treasurer and one to the commission.

Eleventh.—Copies of all certificates of indebtedness issued by the consent of the town board and any and all communications, recommendations, notices relating to the repair and improvement of highways as provided for by chapter 330, known as the Highway Law.

Preparation of Reports.

Fifth.—The town clerk shall provide the supervisor with a certified copy of the annual Highway, Bridge and Miscellaneous Report which he is called upon to file with the clerk of the board of supervisors for publication in the annual proceedings. He shall also provide his town board with a certified copy of this report to be used by them for publication in a newspaper.

NOTE.

1. It is important that the town clerk should furnish the certified copies of this report immediately following the filing of the same with him by the supervisor.

Estimate as Approved by Town Board.

Sixth.—The town clerk is a member of the town board which must approve or disapprove of the estimate of the town superintendent and must preserve as a town record the proceedings of the town board in relation thereto.

NOTES.

1. The estimate must be signed in duplicate and one filed in the office of the town clerk.

2. The supervisor must be furnished with a duplicate of the estimate to be delivered by him to the clerk of the board of supervisors.

3. It is the duty of the town clerk to forward a certified copy of the estimate to the commission.

Statement Regarding Extraordinary Repairs.

Seventh.—The town clerk shall prepare a statement showing the probable cost of improving, repairing or rebuilding any highway or bridge which shall at any time be damaged or destroyed by the elements or otherwise, or become unsafe for public use or travel or if any bridge be condemned by the commission.

NOTES.

1. The statement must be signed in duplicate by a majority of the members of the town board, one of which duplicates shall be filed in the office of the town clerk and one must be delivered to the supervisor. It is then the duty of the town clerk to make a copy of the same and transmit it to the commission.

2. Copies of any certificates of indebtedness or records showing the action of the town board in providing money to meet the expenses incurred for extraordinary repairs to highways and bridges must also be forwarded to the commission.

3. Information necessary to enable the town clerk to make a statement of this character must be furnished by the district or county superintendent.

THE HIGHWAY LAW

OF THE

STATE OF NEW YORK

L. 1909, *chap.* 30.—AN ACT RELATING TO HIGHWAYS, CONSTITUTING CHAPTER TWENTY-FIVE OF THE CONSOLIDATED LAWS.

(In effect February 17, 1909.)

As amended by the Legislatures of 1909 and 1910.

CHAPTER XXV OF THE CONSOLIDATED LAWS.

HIGHWAY LAW.

- Article I. Short title and definitions (§§ 1-3).
 II. Department of highways (§§ 10-22).
 III. District or county superintendents (§§ 30-33).
 IV. Town superintendents; general powers and duties (§§ 40-77).
 V. Highway moneys; state aid (§§ 90-111).
 VI. State and county highways (§§ 120-157).
 VII. Maintenance of state and county highways (§§ 170-179).
 VIII. Laying out, altering and discontinuing highways; private roads
 (§§ 190-240).
 IX. Bridges (§§ 250-262).
 X. Ferries (§§ 270-274).
 XI. Motor vehicles. (§§ 280-310).
 XII. Miscellaneous provisions (§§ 320-343).
 XIII. Saving clauses; laws repealed; when to take effect (§§ 350-358).

ARTICLE I.

Short Title and Definitions.

Section 1. Short title.

2. Definitions.

3. Classification of highways.

Section 1. **Short title.**—This chapter shall be known as the “Highway Law.”

§ 2. **Definitions.**—1. The term “department,” when used in this chapter, shall mean the department of highways as constituted herein.

2. The term “commission,” when so used, shall mean the state commission of highways.

3. The term “district superintendent” or “county superintendent,” when so used, shall mean the district superintendent of highways or county superintendent of highways respectively.

4. The term “town superintendent,” when so used, shall mean the town superintendent of highways.

5. A highway within the provisions of this chapter shall be deemed to include necessary culverts, sluices, drains, ditches, waterways, embankments, retaining walls and all bridges having a span of five feet or less.

Sidewalks as part of highway. A sidewalk is as much a part of the highway as the traveled wagon road. *People v. Meyer*, Misc. 117, 56 N. Y. Supp. 1097, 1099 (1899).

Private roads. Provisions are made in this chapter for the laying out of private roads. See Highway Law, §§ 211–226. As to what constitutes a dedication of a private road as a public highway, see Highway Law, § 191, and the cases cited thereunder.

§ 3. **Classification of highways.**—Highways are hereby divided into four classes:

1. State highways are those constructed or improved under this chapter at the sole expense of the state, including those highways specified and described in section one hundred and twenty of this chapter.

2. County highways are those heretofore or hereafter constructed or improved at the joint expense of state, county and town, as provided by law, except those highways specified and described in section one hundred and twenty of this chapter.

3. County roads are those designated as such under a general or special law and constructed, improved, maintained and repaired by the county as such in counties in which the county road system has been or may be adopted.

4. Town highways are those constructed, improved or maintained by the town with the aid of the state, under the provisions of this chapter, including all highways in towns, outside of incorporated villages constituting separate road districts, which do not belong to either of the three preceding classes.

As amended by L. 1910, chap. 567.

ARTICLE II.

Department of Highways.

Section 10. Department of highways established.

11. State commission of highways; deputies; secretary and other clerks, officers and employees.
12. Oath of office; undertakings.
13. Principal office; official seal; stationery.
14. Salaries and expenses.
15. General powers and duties of the commission.
16. Division of state; division engineers.
17. Duties of division engineers.
18. Blank forms and town accounts.
19. Examination of accounts and records.
20. Condemnation of bridges.
21. Estimate of cost of maintenance of state and county highways.
22. Rules and regulations for state and county highways.

§ 10. Department of highways established.— There is hereby established a department, to be known as a department of highways, which shall be constituted as provided in this chapter, and shall have the powers and perform the duties hereinafter prescribed.

§ 11. State commission of highways; deputies, secretary, and other clerks, officers and employees.— On or before the tenth day of January, nineteen hundred and nine, the governor shall appoint three commissioners of highways, by and with the advice and consent of the senate, who shall constitute the state commission of highways, and shall devote all of their time to the duties of their office. Of the commissioners first appointed one shall be designated by the governor as chairman during the term of office of said commissioner. One of them shall be a practical civil engineer who shall have had actual experience in the construction

of highways and bridges. The commissioners first appointed hereunder shall hold office for terms of two, four and six years commencing on the first day of January, nineteen hundred and nine, to be designated by the governor when making the appointment. One of such commissioners shall belong to the party casting at the last preceding state election the next to the highest number of votes for governor, and whenever appointments are made to fill vacancies caused by the expiration of term or otherwise they shall be made so that at least one of such commissioners shall belong to such party. Upon the expiration of each such terms the term of office of each commissioner thereafter appointed shall be six years from the first day of January succeeding the expiration of the term of office of his predecessor. If a vacancy shall occur otherwise than by expiration of term it shall be filled by appointment for the unexpired term. The commission shall appoint two deputies, each of whom shall have had practical experience in the actual building, construction and maintenance of highways and be familiar with the operation and effect of state statutes relating to highways and bridges. One of such deputies shall be known as the first deputy and his duties shall relate to the maintenance of state and county highways; the other shall be known as the second deputy, and his duties shall relate to the improvement, repair and maintenance of town highways and bridges. Each of such deputies shall have such other and further duties as may be imposed upon him by the commission. The commission shall appoint a secretary who shall have the duties prescribed by the commission. The commission shall appoint such resident engineers, clerks, officers and employees as may be required to carry out the provisions of this chapter, subject to the civil service laws and the provisions of this chapter, within the amount appropriated therefor, unless the appointment of such clerks, officers or employees is otherwise provided for herein. District superintendents, appointed as provided in this chapter, shall be appointed from lists prepared from examinations which shall test their qualifications for the actual construction and maintenance of highways and their executive capacity, rather than their scientific attainments. Clerks, other than those employed in the principal office of the commission, inspectors and other employees in the department whose duties pertain to the maintenance of highways, shall likewise be selected from lists prepared from examinations testing their general knowledge of the highway law and of the prac-

tical construction of highways. Inspectors of construction, other than engineers and levelers, shall be selected from lists similarly prepared, except that they shall be residents of the county within which the highway constructed or improved is located. To the end that the employees of the department of highways engaged in the work of constructing, improving or maintaining highways under the provisions of this chapter may be practical highway builders, the highway commission is authorized to indicate to the civil service commission the relative value which should be given to experience and scientific attainments.

§ 12. **Oath of office; undertaking.**— Each of such commissioners shall, before entering upon the duties of his office, take and subscribe the constitutional oath of office and execute an undertaking in the sum of twenty-five thousand dollars, to be approved by and filed with the comptroller and renewed as often as the governor may require. Such undertaking shall be to the effect that each such commissioner will faithfully discharge the duties of his office and promptly account for and pay over all moneys or property received by him as such commissioner in accordance with law, or in default thereof that the parties executing such undertaking will pay all damages, costs and expenses resulting from such default. Each of the deputies and the secretary shall execute an undertaking in the sum of five thousand dollars to be approved by the commission and filed in its office.

§ 13. **Principal office; official seal; stationery.**— The principal office of the department shall be in the city of Albany in rooms provided by the trustees of public buildings. The department shall have an official seal, to be prepared by the secretary of state, as provided by law. The offices of the department shall be supplied with necessary postage, stationery and office furniture and appliances, to be paid for out of moneys appropriated therefor, and it shall have prepared for it by the state, such books and blanks as are required for carrying on the business of the department.

§ 14. **Salaries and expenses.**— The chairman of the commission shall receive an annual salary of six thousand dollars; each of the other commissioners shall receive an annual salary of five thousand dollars. The first and second deputy and secretary shall each receive an annual salary of three thousand five hundred dollars. The clerks, officers and other employees of the department shall receive the compensation fixed by the commission except as otherwise defined and established in this chapter and by the an-

nual appropriation and supply bills. In the discharge of their official duties such commissioners, deputies, secretary, and the clerks, officers and other employees of the department shall have reimbursed to them their necessary traveling expenses and disbursements. Such salaries and expenses shall be paid by the state treasurer upon the warrant of the comptroller, out of moneys appropriated therefor in the same manner as the salaries and expenses of other officers, clerks and employees are paid.

§ 15. **General powers and duties of the commission.**—The commission shall

1. Have general supervision of all highways and bridges which are constructed, improved or maintained in whole or in part by the aid of state moneys.

2. Prescribe rules and regulations not inconsistent with law, fixing the duties of division engineers, district, county and town superintendents in respect to all highways and bridges composing the state and county systems and determining the method of the construction, improvement or maintenance of such highways and bridges. Such rules and regulations shall, before taking effect, be printed and transmitted to the highway officers affected thereby.

3. Compel compliance with laws, rules and regulations relating to such highways and bridges by highway officers and see that the same are carried into full force and effect.

4. Aid district, county and town superintendents in establishing grades, preparing suitable systems of drainage and advise with them as to the construction, improvement and maintenance of highways and bridges.

5. Cause plans, specifications and estimates to be prepared for the repair and improvement of highways and the construction and repair of bridges, when requested so to do by a district, county or town superintendent.

6. Investigate and determine upon the various methods of road construction adapted to different sections of the state, and as to the best methods of construction and maintenance of highways and bridges.

8. Compile statistics relating to the public highways throughout the state, and collect such information in regard thereto as they shall deem expedient.

9. Cause public meetings to be held at least once each year, in each district or county, for the purpose of furnishing such general information and instructions as may be necessary, regarding

the construction, improvement or maintenance of the highways and bridges and the application of the highway law, and the rules and regulations of the department, and also for the purpose of hearing complaints. They shall notify the district or county superintendent of their intention to hold such meeting or meetings, specifying the date and the place thereof.

10. Aid at all times in promoting highway improvement throughout the state, and perform such other duties and have such other powers in respect to highways and bridges as may be imposed or conferred on them by law.

11. Approve and determine the final plans, specifications and estimates for state and county highways upon the receipt of the report and recommendations of the county or district superintendent, as provided herein, and transmit the same in the case of a county highway to the board of supervisors. After the approval of such plans, specifications and estimate by the board of supervisors and the return thereof to the commission, in the case of a county highway and after their final determination in respect thereto in the case of a State highway, the Commission shall cause a contract to be let for the construction or improvement of such State or county highway after due advertisement.

12. Prepare tables showing the total number of miles of highways in the state, by town and county, and file a copy of the same in the office of the comptroller.

Authority of State Highway Commission. By an opinion of the Attorney-General, under date of April 28, 1909, it was held that section 15 specifies and defines the powers and duties of the Commission and that its supervision and control are not limited to the highways which have been or will be constructed in whole or in part by State aid, but extends to all highways which are improved or maintained in whole or in part by the aid of State moneys. It will also be observed by subdivisions 4, 5, 6, 7, 8, 9, 10 and 12 of section 15, that the Commission has general advisory supervision over all public highways in the State and that it is required to prescribe rules and regulations therefore.

The Commission also has supervisory control over moneys in the hands of the supervisor for such purposes and it is its duty to safeguard such funds, particularly those furnished by the State.

§ 16. **Division of state; division engineers.**—The commission shall divide the state into not more than six divisions and shall appoint and assign to each division a division engineer. In making such division no county shall be divided. Each person so appointed as a division engineer shall be a practical civil engineer having had actual experience in the construction and maintenance of highways and bridges. The salary of such engineers

shall be three thousand dollars per annum. An office may be maintained by such division engineers at a convenient place within each division as authorized by the commission. The salary and expenses of such engineers shall be paid out of moneys appropriated therefor upon the requisition of the commission. Each division engineer shall, before entering upon the duties of his office, take and subscribe the constitutional oath of office and execute an official undertaking in the sum of ten thousand dollars to be approved by the commission.

§ 17. **Duties of division engineers.**—Each division engineer shall devote his entire time to the performance of his duties. He shall, under the direction and control of the commission:

1. Make or cause to be made all surveys, maps, plans, specifications and estimates necessary or required for the improvement, construction and maintenance of state and county highways within the division for which he is appointed.

2. Examine, revise and approve all plans, specifications and estimates and proposals for the improvement, construction and maintenance of highways and bridges within his division, which may be submitted by the commission, pursuant to the provisions of this chapter, or the rules and regulations of the commission.

3. Examine and inspect, or cause to be examined and inspected, the work performed on any highways, and report to the commission as to whether the work has been done in accordance with the plans and specifications and contracts made therefor.

4. Approve and certify to the monthly estimates or allowances for work being performed under any contract let for the construction, improvement or maintenance of state and county highways.

5. Inspect, or cause to be inspected, all state and county highways, and report from time to time in respect thereto, when required by the commission.

6. Consult with district, county and town superintendents and other highway officers in respect to the proper methods of constructing, improving and maintaining highways and bridges.

7. Perform such other duties as may be prescribed by the commission.

§ 18. **Blank forms and town accounts.**—The commission shall prescribe and furnish blank forms of orders, reports and accounts and blank books, whenever in their judgment they are required for the convenience of their office and of highway officers.

The Commission is authorized to prescribe the method of keeping account of highway moneys. Highway Law, § 108.

§ 19. Examination of accounts and records.—The commission may, at such times as may be deemed expedient, cause an examination of all accounts and records kept as required by this chapter, and it shall be the duty of all county and town officers to produce all such records and accounts for examination and inspection, at any time on demand of a representative of the commission.

§ 20. Condemnation of bridges.—The commission shall cause an inspection to be made of any bridge which is reported to be unsafe for public use and travel by the district or county superintendent, the town superintendent, or five residents of the town. If such bridge is found to be unsafe for public use and travel the commission shall condemn such bridge, and notify the district or county superintendent, the town superintendent and the supervisor of the town, of that fact. The district or county superintendent shall either prepare or approve plans, specifications and estimates for the construction or repair of such bridge without delay. The town shall provide for the construction or reconstruction of such bridge, as provided for by section ninety-three of this chapter.

By an opinion of the Attorney-General under date of May 3, 1910, it was held that a bridge cannot be built or repaired unless the money is provided in some way for the work and that the whole underlying scheme of the Highway Law is defeated if the vote of the town is adverse to the proposition. The bridges which the towns are bound to support span many rivers, streams and ravines where fording or other means of crossing would be impossible and if a town refuses its consent to the construction or repair of a bridge which would cost more than \$1,500 and the bridge has either been washed away or become dangerous to travel, the road would have to be abandoned, travel along it discontinued and the general public inconvenienced until the tax payers of the town could be persuaded to vote the necessary appropriation. There is no authority conferred upon the Commission to act in the event of the failure of the electors of a town to vote the necessary appropriation and there is no power or authority given to anybody to go ahead with the construction or repair of a bridge, no matter how dangerous it may be, if the expense thereof is to be more than \$1,500.

§ 21. Estimate of cost of maintenance of state and county highways.—The commission shall annually cause to be inspected all state and county highways, either by the division engineer, or the district or county superintendent of the district or county in which such highways are situated and shall require a complete report of such inspection which shall show in detail the condition of the highway inspected, the necessary work to be performed in the repair and maintenance of such highways, and the esti-

mated cost thereof. The commission shall revise said estimates and annually report to the legislature its estimated cost of such repair and maintenance for the ensuing year, as so revised, in detail by town and county.

§ 22. Rules and regulations for state and county highways.—

The commission is hereby empowered to make rules and regulations from time to time for the protection of any state or county highway or section thereof. They may prescribe the width of tires to be used on such highways and they may prohibit the use of chains or armored tires by motor vehicles upon such highways, and any disobedience thereof shall be punishable by a fine of not less than ten dollars and not exceeding one hundred dollars, to be prosecuted for by the town, county, or district superintendent and paid to the county treasurer to the credit of the fund for the maintenance of such highways in the town where such fine is collected.

ARTICLE III.

District or County Superintendents.

Section 30. Appointment of county superintendents.

31. District superintendents; appointment and salaries.

32. Removal of county superintendents.

33. General powers and duties of district or county superintendents.

§ 30. Appointment of county superintendent.—The board of supervisors of any county may appoint a county superintendent, determine the amount of the bond which he shall give, fix his salary, and provide for the payment of all the necessary expenses incurred while in the performance of his duties, which salary and expenses, shall be a county charge, and may remove such county superintendent for malfeasance or misfeasance in office, upon written charges, after an opportunity to be heard, not less than five days after the service upon such superintendent of a copy of such charges. The term of office of each superintendent shall be four years unless sooner removed by the board of supervisors as above provided, or by the commission as hereinafter provided.

Amended by L. 1910, ch. 567.

§ 31. District superintendents: appointment and salaries.—If the board of supervisors of any county shall fail to appoint a county superintendent, the commission shall appoint a county superintendent from the eligible list of the county, and fix his

salary, which, together with his expenses, shall be a county charge, payable monthly, or, in its discretion, place such county in a district with such other counties as they deem best and appoint a district superintendent therefor. A county may be divided, but no district shall contain more than five thousand miles of public highways. Such district superintendents may be removed by the commission at its pleasure. The commission shall fix the salaries of such superintendents. Such salaries, together with expenses, shall be paid monthly in the first instance by the state treasurer upon the warrant of the comptroller and the amount thereof shall be annually apportioned by the commission among the counties contained in the district, in proportion to the number of miles of public highways of such county and in such district. The comptroller shall certify the amount so apportioned to the board of supervisors of each of such counties, and such board shall annually levy and cause to be collected as a county charge the proportionate part of such salary, and the treasurer of each such county shall pay the sum so raised into the state treasury.

Amended by L. 1910, ch. 224.

§ 32. Removal of county superintendent.— The commission may remove a county superintendent for inefficiency, neglect of duty or misconduct in office, upon written charges after an opportunity of being publicly heard in his defense. A copy of such charges shall be personally served upon such superintendent and he shall be given not less than five days' notice of the time and place of the hearing. If upon such hearing it appears that the charges are sustained, the commission shall remove such superintendent and forthwith serve notice thereof by mail upon the superintendent and upon the chairman and clerk of the board of supervisors of the county for which he was appointed. Such notice shall state specifically the grounds for such removal. The record of the proceedings upon such hearing shall be filed in the office of the commission. The commission shall appoint a district superintendent for such county or cause it to be added to some other district, and it shall thereupon be made subject to the jurisdiction of the district superintendent thereof until the board of supervisors shall appoint a new county superintendent to fill the vacancy caused by such removal.

§ 33. General powers and duties of district or county superintendents.— The district or county superintendent appointed as

provided in this article shall, subject to the rules and regulations of the commission:

1. Have the general charge of all highways and bridges within his district or county and see that the same are improved, repaired and maintained, as provided by law, and have the general supervision of the work of constructing, improving and repairing bridges and town highways in his district or county.

2. Visit and inspect the highways and bridges in each town of his district or county, at least once in each year and whenever directed by the commission, and advise and direct the town superintendent how best to repair, maintain and improve such highways and bridges.

2a. If a county has any county roads as defined by subdivision 3 of section 3, the county superintendent shall on or before December 1st in each year prepare and submit to the board of supervisors of such county a statement of the amount necessary to be raised by the board of supervisors for the construction, improvement and maintenance of such county roads for the ensuing year, showing the amount by towns and as a total and the location where any permanent repairs are required to be made.

Added by L. 1910, ch. 567.

3. Examine the various formations and deposits of gravel and stone in his district or county, for the purpose of ascertaining the materials which are best available and suitable for the improvement of highways therein, and when requested by the commission submit samples of such formations and deposits and make a written report in respect thereto.

4. Establish, or cause to be established, such grades, and recommend such means of drainage, repairs and improvements, as seem to him necessary whenever requested by the town superintendent or town board.

5. Approve plans and specifications and estimates for the erection and repair of bridges and the construction and maintenance of town highways.

6. Report to the commission annually, on or before November fifteenth in each year, in relation to the highways and bridges in his district or county, containing such matter and in such form as may be prescribed by the commission, and file a duplicate thereof with the clerk of the board of supervisors. Additional reports shall be made from time to time when required by the commission in respect to such matters as may be specified by them.

7. Whenever a public meeting for a county or district shall have been called by the commission he shall cause due notice to be mailed to each town superintendent and supervisor of the towns under his jurisdiction and give such notice by advertisement as shall be directed by the commission.

8. Inspect or cause to be inspected, if so directed by the board of supervisors, each county highway during its construction or improvement, and certify to the board of supervisors the progress of the work, and report to the commission any irregularities of the contractor or any failure on his part to comply with the terms of the contract.

9. Perform such other duties as may be prescribed by law, or the rules and regulations of the commission.

Rules and regulations of commission. It is provided that the powers and duties herein conferred or imposed upon the district or county superintendents shall be exercised or performed subject to rules and regulations of the commission. By § 15, subd. 2, *ante*, the commission is authorized to prescribe rules and regulations fixing the duties of district and county superintendents, "not inconsistent with law."

Gravel and stone deposits. The object of requiring county and district superintendents to report to the commission as to deposits and formations of gravel and stone in their counties or districts, is to inform the commission of the availability of good material for highway construction so as to enable them to determine the kind and cost of material to be used in the construction of State and county highways in such localities.

Public meetings are called by the commission pursuant to § 15, subd. 9, *ante*, and town superintendents are required to be present, under § 47, subd. 10, *post*.

Inspection of county highways during construction is required of county and district superintendents, only when requested by boards of supervisors, in which event they are representatives of the county for the purpose of ascertaining whether the county is getting what it pays for. Under the old law the town and county had no opportunity to be heard during the construction of a highway, and in practice the highway was accepted solely upon the determination of the State Engineer although the localities were required to pay one-half of the cost. When such a highway is properly completed it is provided in section 134 that the board of supervisors is to accept the same, and this inspection will aid the board in arriving at a proper determination.

ARTICLE IV.

Town Superintendent; General Powers and Duties.

Section 40. Election of town superintendent of highways.

41. Submission of proposition for appointment of town superintendent.
42. Term of office of town superintendent.
43. Vacancies; office of highway commissioner abolished.
44. Deputy town superintendent.
45. Compensation of town superintendent and deputy.
46. Removal of town superintendent.
47. General powers and duties of town superintendent.
48. Contracts for the construction of town highways.
49. Machinery, tools and implements.
50. Town superintendent may hire machinery.
51. Purchase of gravel and stone.
52. Obstructions and their removal.
53. Removal of obstructions from ditches, culverts and waterways.
54. Removal of noxious weeds and brush within the highways, and of obstructions caused by snow.
55. Assessment of costs against owners and occupants.
56. Wire fences to prevent snow blockades.
57. Entry upon lands by town superintendent.
58. Damages to owners of lands.
59. Damages for change of grade.
60. Drainage, sewer and water pipes, cattle passes or crossings in highways.
61. Trees and sidewalks.
62. Expenditures for sidewalks.
63. Allowances for shade trees.
64. Custody of shade trees.
65. Compensation for watering troughs.
66. Credit on private road.
67. Neglect or refusal to prosecute.
68. Erection of guide boards.
69. Measurement of highways and report.
70. Application for service of prisoners.
71. Construction and repair of approaches to private lands.
72. Unsafe toll bridges.
73. Actions for injuries to highways.
74. Liability of town for defective highways.
75. Action by town against superintendent.
76. Audit of damages without action.
77. Closing highways for repair or construction.
78. Adoption of labor system for removing snow.
79. Assessment of cost of labor for removal of snow.
80. List of persons assessed for removal of snow.
81. District foremen; return and levy of unworked taxes.
82. Appeals by nonresidents; certain assessments to be separate; tenant may deduct assessment.

§ 40. Election of town superintendent of highways.— At the biennial town meeting held next after the taking effect of this chapter, there shall be elected in each town a town superintendent of highways. A successor to the town superintendent, so elected, shall be elected at each biennial town meeting held thereafter in such town, unless the town shall have adopted as provided in section 41 a resolution that thereafter the town superintendent shall be appointed by the town board.

Every elector of a town is eligible to the office of town superintendent. Town Law, § 80.

A town superintendent must be a resident of the town. A town superintendent is required to take constitutional oath of office. The town clerk is to notify the town board of failure of town superintendent to take and file oath of office. The neglect or failure to file oath of office within the required time vacates office.

§ 41. Submission of proposition for appointment of town superintendent.— Upon the written request of twenty-five taxpayers of any town, made and filed as provided in the town law, the electors thereof may, at a special or biennial town meeting, vote by ballot upon a proposition providing for the appointment of a town superintendent in such town. Such proposition shall be submitted in the manner provided by law for the submission of questions or propositions at a town meeting. If such proposition be adopted, the town board of the town shall, upon the expiration of the term of office of the elected town superintendent, appoint a town superintendent therefor, who shall take and hold office for the term hereinafter prescribed.

§ 42. Term of office of town superintendent.— The term of office of a town superintendent elected or appointed, as provided in this article, shall be two years. If such town superintendent be elected at a town meeting held at the time of a general election, his term shall begin on the Thursday succeeding his election, or as soon thereafter as he shall have been officially notified of his election and shall have duly qualified. If such town superintendent shall have been elected at a town meeting held at any other time, his term of office shall begin on the first day of November succeeding his election. If such town superintendent shall have been appointed pursuant to a proposition adopted, as provided in the preceding section, his term shall likewise begin on the first day of November, and the town board shall meet prior to that day, for the appointment of such town superintendent.

§ 43. Vacancies; office of highway commissioner abolished.—Vacancies in the office of town superintendent shall be filled for the balance of the unexpired term. The office of highway commissioner in each town is hereby abolished, to take effect on and after November first, nineteen hundred and nine. Where the office of highway commissioner shall become vacant by expiration of term or otherwise, after the taking effect of this chapter, and prior to the said first day of November, nineteen hundred and nine, such vacancies shall be filled for a term to expire on such date. Highway commissioners in office when this chapter or any section hereof takes effect shall exercise the powers and perform the duties hereby conferred and imposed upon town superintendents until the said first day of November, nineteen hundred and nine, and until their successors shall have duly qualified, whereupon such powers and duties shall cease and determine.

§ 44. Deputy town superintendent.—The town board of a town may, in its discretion, upon the written recommendation of the town superintendent, appoint a deputy town superintendent, to be nominated by such town superintendent, to assist him in the performance of his duties. Such deputy superintendent shall act as such during the pleasure of the town superintendent.

§ 45. Compensation of town superintendent and deputy.—The town board shall fix the compensation of such superintendent and his deputy, if one be appointed, which shall not be less than two nor more than five dollars per day. Such town superintendent and his deputy, if any, shall be paid the actual and necessary expenses incurred by them in the performance of their duties. Such compensation may be paid by the supervisor monthly, in advance of audit, from moneys levied and collected for such purpose, on accounts duly verified in the same manner as town accounts are required by law to be verified. Such accounts for compensation, together with accounts for expenses incurred by such town superintendent and his deputy, if any, verified as above provided, shall be subject to audit by the town board at its meeting held annually for the audit of accounts of town officers, and the balance due, as finally audited by the town board, shall be paid by the supervisor to such town superintendent, or deputy, if any, from funds available therefor.

§ 46. Removal of town superintendent.—A town superintendent may be removed by the town board upon written charges preferred by the commission, or by the district or county superintendent, for malfeasance or misfeasance in office. Such charges

shall be presented in duplicate to the town clerk, one of which shall be filed in his office, and the other shall be served by him personally upon the town superintendent, together with a notice directing him to appear before the town board at a time and place stated therein. Such service shall be made at least five days prior to the time specified in such notice. The town board shall convene for the purpose of considering such charges within ten days after the filing thereof with the town clerk. The town board shall hear evidence in support and in defense of such charges and after such hearing shall enter an order in the office of the town clerk either sustaining or dismissing such charges. The entry of an order sustaining the charges shall operate as a removal and the town board shall appoint another person to fill the vacancy caused thereby. The person so appointed shall hold office for the unexpired term or until the entry of a final order of a court of competent jurisdiction determining that the original town superintendent was wrongfully and illegally removed and directing his reinstatement. If the charges are dismissed, the town board shall notify the commission and the district or county superintendent of such fact. The town board shall also notify the commission and the district or county superintendent of the name of the person appointed to fill the vacancy caused by the removal of such town superintendent. An appeal may be taken by the commission or district or county superintendent, or by the town superintendent, from the order of the town board, to the county court by the filing of a notice of such appeal in the office of the town clerk within thirty days after the entry of such order. A copy of such notice of appeal shall be served personally or by mail upon the adverse party. Upon such appeal the county court shall consider the charges presented to the town board, and may hear evidence in support and in defense thereof. After such hearing the court shall make an order either affirming or reversing the order of the town board. A copy of such order shall be entered in the office of the town clerk. If the order reverse an order dismissing the charges, it shall direct the town board to remove the town superintendent and appoint a person to fill the vacancy caused thereby, within the time specified therein; if it reverse an order sustaining such charges, it shall direct the reinstatement of the town superintendent removed, to take effect upon the filing of the copy in said town clerk's office.

§ 47. **General powers and duties of town superintendent.**— The town superintendent shall, subject to the rules and regulations of the commission, made and adopted as provided in this chapter:

1. Have the care and superintendence of the highways and bridges in the town except as otherwise specially provided in relation to incorporated villages, cities and other localities.

2. Cause such highways and bridges to be kept in repair, and free from obstructions caused by snow and give the necessary directions therefor, and inspect the highways and bridges within the town, during the months of April and October of each year, or at such other time as the district or county superintendent may prescribe.

3. Divide the town into as many sections as may be necessary for the proper maintenance and repair of the highways therein, and the opening of highways obstructed by snow.

Obstructions caused by snow. The duty of keeping highways free from obstructions caused by snow is made by this subdivision as obligatory upon the town superintendent the same as keeping them in repair.

4. Employ such persons with teams and implements, as may be necessary for the proper maintenance and repair of highways and bridges, and the removal of obstructions caused by snow, subject to the approval of the town board, as hereinafter provided, and provide for the organization and supervision of the persons so employed. He shall file a list of the names of the persons so employed, with the compensation paid to each, and the capacity in which they were employed in the office of the town clerk.

Payment of laborers. When an agreement has been entered into between the town board and the town superintendent, as provided in section 105, *post*, authorizing the expenditure of highway moneys at such places and in such manner as may be specified in such agreement, the town superintendent is authorized to employ such labor as may be necessary in making such repairs and improvement, and the wages are to be paid by the supervisor on the written order of the town superintendent.

Weekly or semi-monthly pay days should be established and provision made by the town superintendent and supervisor for the issue and payment of town highway orders upon such day.

5. Construct and keep in repair sluices and culverts and cause the waterways, bridges and culverts to be kept open.

Ditches, culverts and waterways in State and county highways are required to be kept open and free from obstructions at all times, by the town superintendent. See section 53, *post*. It is made unlawful for the owner or occupant of lands adjoining a highway to fill up any ditch or place any material of any

kind or character therein so as to in any manner obstruct or interfere with the purposes for which it was made. See section 71, *post*.

6. Cause loose stones lying in the beaten track of every highway within his town to be removed at least three times each year between the first day of April and the first day of December. Stones so removed shall be conveyed to some place from which they shall not work back, or be brought back into the track by road machines or other implements used in repairing such highways.

Injurious substances in highways. A person who willfully throws, drops or places, or causes to be thrown, dropped or placed, upon any road, highway, street or public place, any glass, nails, pieces of metal or other substances which might wound, disable or injure any animal is guilty of a misdemeanor. Penal Code, section 661.

7. Cause noxious weeds growing within the bounds of the highway to be cut and removed, at least twice each year, once between the first and thirtieth day of July, and once between the first and thirtieth day of September. He shall also cause all briers and brush within the bounds of the highway to be cut and removed once between the first and thirtieth day of September in each year, as provided by section fifty-four of this chapter, unless otherwise directed by the commission.

Subd. 7, amended by L. 1910, ch. 567. In effect June 21, 1910.

8. Cause such highways as shall have been laid out, but not sufficiently described, and such as shall have been used for twenty years, but not recorded, to be ascertained, described and entered on record in the town clerk's office.

9. Inspect all highways which are to be constructed or improved as state or county highways, when directed by the district or county superintendent, for the purpose of securing preliminary information to be used in preparing the plans and specifications for such highways, and mark or in some substantial manner designate the portions of such highways which may need special care and attention. He shall report to the district or county superintendent the condition of such highways and submit therewith such recommendations in respect thereto as may seem expedient. The district or county superintendent may require additional reports in respect to such highways whenever it seems to him to be necessary.

10. Attend public meetings called by the commission, held within the county, after receiving notice thereof from the district or county superintendent, and his expenses necessarily incurred thereby shall be a town charge.

11. Cause the monuments erected, or to be erected, as the boundaries of highways, to be kept up and renewed so that the extent of such highway boundaries may be publicly known, and erect and establish such new monuments as may be required by the district or county superintendent.

12. Collect all penalties prescribed by this chapter.

13. Report annually on such date as may be prescribed by the commission, prior to November fifteenth, to the district or county superintendent, in relation to the highways and bridges in his town, containing the matter and in the form to be prescribed by the commission.

14. Perform such other duties and have such other powers as may be imposed or conferred by law, or the rules and regulations of the commission, including the powers and duties heretofore exercised or performed by highway commissioners.

§ 48. **Contracts for the construction of town highways.**—The town board of any town may provide that the construction of new highways, or the permanent improvement or reconstruction of existing highways, the cost of which will exceed five hundred dollars, shall be done under contracts. All such contracts shall be awarded by the town superintendent, in accordance with estimates, plans and specifications to be furnished by the district or county superintendent, or by the commission, as provided in this chapter, to the lowest responsible bidders, after advertisement once a week, for three consecutive weeks, in a newspaper published in the town where the work is to be performed, or if no newspaper is published therein, in a newspaper published at some other place in the county, having the largest circulation in said town. All bids for such work shall be opened in public and shall be filed in the office of the town clerk. No such contract shall be awarded, unless it be approved by the district or county superintendent, as to its form and sufficiency. The person to whom such contract is awarded shall execute a bond to the town, in a sum equal to the amount of the contract, with two or more sureties to be approved by the town board, conditioned for the faithful compliance with the terms of the contract, and the plans and specifications and for a payment of all damages which may accrue to the town, because of a violation thereof. When such work is completed pursuant to the terms of such contract, and the plans and specifications therefor, and accepted by the district or county superintendent and town board, as being in accordance therewith,

the cost of the work under the contract shall be paid out of moneys available therefor, in the same manner as other highway expenses. Payments made under such contract shall be upon certificates issued to the contractor by the district or county superintendent, to the effect that the work has been done under and in accordance with the terms of such contract, and the plans and specifications. All work done under any such contract shall be under the supervision of the district or county superintendent, or some person designated by him. The town superintendent shall file all contracts, awarded under this section or as provided in this chapter, for the construction, improvement or repair of town highways and bridges, with the town clerk of the town within ten days after their execution.

Note: This section is intended to give town boards the option of having work amounting to more than \$500 done under direction of the town superintendent, or by contract, as may best serve the interests of the town.

§ 49. **Machinery, tools and implements.**—The town superintendent may, with the approval of the town board, purchase for the use of the town, stone crushers, steam rollers, traction engines, road machines for grading and scraping, tools and other implements, subject to the limitations prescribed in section ninety-four, which shall be paid for from moneys levied and collected or from the proceeds of bonds issued and sold for such purposes as provided in this chapter. No contract for the purchase of stone crushers, steam rollers or traction engines shall be valid, unless the district or county superintendent shall have approved thereof and endorsed his approval upon such contract. All road machines, stone crushers, steam rollers, tools and other implements owned either by the town or the highway districts therein, when this chapter takes effect, shall be used by the town superintendent in such manner and at such places in such town as he shall deem best. They shall be under the control of the superintendent and be cared for by him at the expense of the town. The town superintendent shall annually make a written inventory of all such machinery, tools and implements, indicating each article and stating the value thereof, and the estimated cost of all necessary repairs thereto, and deliver the same to the supervisor of the town on or before October thirty-first in each year. He shall at the same time file with the town clerk his written recommendations as to what machinery, tools and implements should be purchased for the use of the town, and the probable

cost thereof. The town superintendent shall provide a suitable place for housing and storing all machinery, tools and implements owned by the town and cause the same to be stored therein, when not in use. Where there is an incorporated village constituting a separate road district, wholly or partly in a town which has purchased a stone crusher, steam roller or traction engine, the town board of such town may permit the use thereof by such village upon such terms as may be agreed upon.

§ 50. **Town superintendent may hire machinery.**— The town superintendent may, with the approval of the district or county superintendent, lease or hire stone crushers, steam rollers and traction engines at a rate to be approved by the town board, which shall not exceed ten dollars for a stone crusher and steam roller, and eight dollars for a traction engine, for each day such stone crusher, steam roller or traction engine is actually used upon the highways. The expense thereof shall be paid by the supervisor, upon the written order of the town superintendent, out of moneys received by him, as provided in this chapter, for the repair and improvement of highways.

§ 51. **Purchase of gravel and stone.**— The town superintendent may, with the approval of the town board, purchase of the owner of any gravel bed or pit, or stone quarry within the town, gravel or stone for the purpose of grading, repairing or otherwise improving the highways of the town, at a price per cubic yard to be approved by the town board. If such town superintendent cannot agree with any such owner for the purchase of such gravel or stone, he may, with the approval of the town board, acquire by condemnation the right to take and use such gravel or stone, and to remove the same from such bed, pit or quarry, for the purpose of grading, repairing or otherwise improving such highways, together with the right of way to and from such bed, pit or quarry, for the purpose of such removal. No such gravel or stone shall be so taken by condemnation within five hundred feet of any house or barn, or from any lawn, orchard or vineyard. The purchase price of such stone or gravel and the damages awarded in such condemnation proceedings, together with the costs and expenses thereof, shall be a town charge and paid from moneys levied and collected therefor, as provided by law. If the town shall abandon for the period of three years any right acquired under this section to take and use the gravel or stone from any such bed, pit or quarry, for a period of three years, or if the superintendent shall cease to use the same for the purposes for

which it was acquired, the right thereto shall cease, and the ownership thereof shall revert to and become vested in the owner of such bed, pit or quarry, or his heirs or assigns.

§ 52. **Obstructions and their removal.**— Obstructions, within the meaning of this section, shall include trees which have been cut or have fallen either on adjacent lands or within the bounds of the highway, in such a manner as to interfere with public travel therein; limbs of trees which have fallen within the highway, or branches of trees overhanging the highway so as to interfere with public travel therein; lumber, wood or logs piled within the bounds of the public highway; machines, vehicles and implements abandoned or habitually placed within the bounds of the highway; fences, buildings or other structures erected within the bounds of the highway; earth, stone or other material placed in any ditch or waterway along the highway; telegraph, telephone, trolley and other poles, and the wires connected therewith, erected within the bounds of the highway in such a manner as to interfere with the use of the highway for public travel.

It shall be the duty of each owner or occupant of lands situate along the highway, to remove all obstructions within the bounds of the highway, which have been placed there, either by themselves or by their consent. It shall be the duty of all telephone, telegraph, electric railway and other electrical companies, to remove and reset telephone, telegraph, trolley and other poles and the wires connected therewith, when the same constitute obstructions to the use of the highway by the traveling public. If such obstructions are not removed, or such poles or wires are not moved and reset, within thirty days after the service of a notice, personally or by mail, upon such owner or occupant, or upon such company at its principal place of business, or an agent of such company within the town, requesting the same to be done, the town superintendent shall remove such obstructions, and move and reset such poles and wires. The expense thereby incurred shall be paid in the first instance out of moneys levied and collected and available therefor, and the amount thereof shall be charged against such owner, occupant or company, and levied and collected, as provided in section fifty-five.

From an opinion of the Attorney-General under date of October 24, 1910, it was held:

“It is evident that the use of moneys * * * moneys raised for the repair and improvement of highways, including state aid, are never available for the construction of new town roads and could not be legally diverted to

any other use. The different funds are required to be kept separate by section 107 of the Highway Law, also by order of the State Highway Commission, and a surplus in one fund is not available for use for other work. I am, therefore, of the opinion that moneys known as state aid cannot be used in the building and construction of new town roads or for the payment of damages awarded to land owners in the laying out of a new highway, or for any other purpose except the repair and improvement of the highways of the town.

"In reply to that part of your enquiry as to how the town can procure the necessary money to build a highway, if it cannot be taken from the general fund for the repair and improvement of the highways, I beg to state that section 90 of the Highway Law requires the town superintendent to make estimates of the amounts that should be raised by tax in the town for the ensuing year, and by subdivision 4 thereof he can make an estimate and present it to the town board of the amount which he deems necessary should be raised for building a town highway that has been newly laid out. It is certainly a miscellaneous purpose not provided for in any other subdivision of that section. There is no limitation to the amount that can be raised for miscellaneous purposes except as it is controlled by the public necessities of the town.

"It is also a purpose that can only arise occasionally in any town and is not of annual occurrence like most of the other purposes mentioned in the act referred to.

"The estimates above mentioned are then laid before the town board and if it approves the several amounts are laid before the board of supervisors and raised in the same way as other highway taxes in the town, but if this method is not deemed expedient and if any town board should not feel that it was authorized to raise the amount as above outlined, a proposition can be submitted as provided by section 97 of the Highway Law to the voters of the town."

§ 53. Removal of obstructions from ditches, culverts and waterways.—The town superintendent shall cause all ditches, culverts and waterways on state and county highways to be kept free from obstructions at all times. He shall also cause snow and ice to be removed from the culverts and waterways of such highways and the expense thereof shall be paid from the moneys levied and collected for the repair and improvement of highways, as provided by this chapter.

§ 53-a. Temporary obstructions of highways.—The necessary obstruction of a highway by the removal of buildings or other temporary obstruction shall only be allowed under a permit granted by the county superintendent upon the written request of the town superintendent.

Added by L. 1910, ch. 567.

§ 54. Removal of noxious weeds and brush within the highways, and of obstructions caused by snow.—It shall be the duty of the

owner or occupant of lands situated along the highway to cut and remove the noxious weeds growing within the bounds of the highway, fronting such lands, at least twice in each year, once in the month of June, and once in the month of August. Unless otherwise directed by the commission, it shall be the duty of such owner or occupant to cut and remove all briars and brush, growing within the bounds of the highway, fronting such lands, once in the month of August in each year. It shall also be the duty of such owner or occupant to remove brush, shrubbery and other obstructions within the bounds of the highway, causing the drifting of snow upon said highway, before the first day of November in each year. If such owner or occupant fails to cut or remove such weeds or brush, or to remove such brush, shrubbery or other obstructions, causing the drifting of snow, as provided herein, the town superintendent of the town in which said lands are situated shall cause the same to be done and the expense thereby incurred shall be paid in the first instance out of moneys levied and collected and available therefor, and the amount thereof shall be charged against such owner or occupant, and levied and collected, as provided in section fifty-five.

§ 55. **Assessment of cost against owners and occupants.**— The town superintendent shall assess the cost of,

1. Removing obstructions and moving and resetting poles and wires, pursuant to section fifty-two.

2. Cutting and removing noxious weeds, briars and brush and removing brush, shrubbery and other obstructions within the highways, causing the drifting of snow, pursuant to section fifty-four, against the owner, occupant or company neglecting to perform the duty imposed by the sections above referred to. Such town superintendent shall serve personally or by mail upon such owner, occupant or company, a written notice, stating that at a time and place specified therein, he will assess such cost against the owner, occupant or company neglecting to perform such duty. Such notice shall be served at least eight days previous to the time specified therein. If directed against a company, it may be served upon it at its principal place of business, or upon an agent of the company within the town. At the time and place so specified, he shall hear the parties interested, and shall thereupon complete the assessment, stating therein, the name of each owner, occupant or company, and the amount assessed against him or it, and shall return such assessment to the town clerk who shall present the same to the town board of his town, at its meet-

ing held on the Thursday preceding the annual meeting of the board of supervisors. Such town board shall certify such assessment to the board of supervisors who shall cause the amount stated therein to be levied against such owner, occupant or company and any uncollected tax shall be a lien upon the land affected. The amount so levied shall be collected in the same manner as other taxes levied by such board, and shall be paid to the supervisor of the town, to be applied in reimbursing the fund from which such cost was defrayed.

Abutting owners to cut weeds, brush, etc. A person whose lands about the highway, whether the line of his land is at the edge or in the center of the highway, is required by statute to cut, destroy and remove brush and weeds from the highway surrounding such lands, and where different persons own the land each should cut the brush, etc., to the center of the line of the highway regardless of whether the center line of the highway is the boundary line of the lands.

§ 56. Wire fences to prevent snow blockades.— The town superintendent, with the consent of the town board, may purchase wire for fences to be erected for the prevention of snow blockades, and the said town superintendent is hereby authorized to contract with the owners of the lands lying along the highways of their respective towns, at such points as are liable to snow blockade, for the removal of the fences now standing along the boundaries of such highways and the replacing of such fences with wire fences. He may contract to deliver to such land owners fence wire to be used in the construction of such fences, without charge to said land owners, at the place of purchase, but he shall not agree to pay any part of the cost of the removal or construction called for by said contracts, or to make any payment to said land owners, as a compensation for the construction of fences or for posts. The amount to be expended for the purchase of such wire shall not exceed the sum of three hundred dollars in any one year, and such amount shall be included in the estimate for expenditures for removal of obstructions caused by snow, and other miscellaneous purposes, and paid from the money levied and collected therefor. The fences to be built, under the provisions of this section, shall be of not less than four strands of wire, nor more than nine strands, in the discretion of the town superintendent, approved by the town board, and the construction of said fences and their distance apart, shall be such as said town superintendent shall prescribe. Whenever such fence or fences shall become so out of repair as to be dangerous to animals passing along the

highway, it shall be the duty of the owner or owners of said fence or fences to immediately repair or replace the same. Whenever the town superintendent shall contract for the removal of any fence, under the provisions of this section, he shall file in the office of the town clerk a description of that portion of the highway to which said contract shall apply, and thereafter it shall not be lawful for any person to replace the fence so contracted to be removed, with any fence liable to cause the drifting of snow. In no case shall the town superintendent approve of or permit the use of barb wire for such fences.

§ 57. Entry upon lands by town superintendent.—The town superintendent may, when directed by the district or county superintendent, and when authorized by the town board, enter

1. Upon any lands adjacent to any of the highways in the town, for the purpose of opening an existing ditch or drain, or for digging a new ditch or drain for the free passage of water for the drainage of such highways.

2. Upon the lands of any person adjoining rivers, streams or creeks, to drive spiles, throw up embankments and perform such other labor as may be necessary to keep such rivers, streams or creeks within their proper channels, and to prevent their encroachment upon highways or abutments of bridges.

3. Upon the lands adjoining a highway which, during the spring freshets or at a time of highwater are subject to overflow from such rivers, streams or creeks, to remove or change the position of a fence or other obstruction preventing the free flow of water under or through a highway, bridge or culvert, whenever the same may be necessary for the protection of such highway or bridge.

4. Upon any lands adjacent to highways to remove any fence or other obstruction which causes snow to drift in and upon such highways, and erect snow fences or other devices upon such lands to prevent the drifting of snow in or upon such highways.

§ 58. Damages to owners of lands.—Where lands are entered upon under the provisions of the preceding section, the town superintendent shall agree with the owner of such lands, subject to the approval of the town board, as to the amount of damages, if any, sustained by such owner in consequence of such entry in performance of the work authorized by such section, and the amount of such damages shall be a town charge. If the town superintendent is unable to agree with such owner upon the amount of

damages thus sustained the amount thereof shall be ascertained, determined and paid in the manner that damages are so ascertained, determined and paid, where new highways are laid out and opened and the town superintendent and land owners are uable to agree upon the amount thereof.

§ 59. **Damages for change of grade.**— In any town in which a town highway shall be repaired, graded and macadamized from curb to curb by the authorities of the town the owner or owners of the land adjacent to the said highway shall be entitled to recover from the town the damages resulting from any change of grade. A person claiming damages from such change of grade must present to the town board of such town a verified claim therefor within sixty days after such change of grade is effected. The board may agree with such owner upon the amount of damages to be allowed him. If no agreement be made within thirty days after the presentation of the claim, the person presenting it may apply to the supreme court for the appointment of three commissioners to determine the compensation to which he is entitled. Notice of the application must be served upon the supervisor of the town at least ten days before the hearing thereof. All proceedings subsequent to the appointment of commissioners shall be taken in accordance with the provisions of the condemnation law so far as applicable. Such town board, or such commissioners, shall, in determining the compensation, consider the fair value of the work done, or necessary to be done, in order to place the claimant's lands, or buildings, or both, in the same relation to the changed grade as they stood to the former grade, and make awards accordingly, except that said board or said commissioners may make an allowance for benefits derived by the claimant from such improvement. The amount agreed upon for such damages, or the award therefor together with the costs, if any, allowed to the claimant, shall be a charge against such town and the supervisor shall pay the same, if there be sufficient funds in his hands available, and if not, the town board shall borrow money for the payment thereof, as provided in section ninety-seven, or issue certificates of indebtedness therefor, as provided in section ninety-six. Bonds of the town to raise the money necessary to make such payment, and such bonds or such certificates of indebtedness shall bear a rate of interest not exceeding five per centum per annum payable semi-annually. Such bonds shall be in the same form, and shall be issued and sold in the same manner as other town bonds.

§ 59-a. **Interest on damages for change of grade.**—Whenever awards shall be lawfully made, pursuant to any statute of this State, for damages sustained by real estate or any improvements thereon by reason of any change of grade of any street, avenue or road in front thereof, the award for the principal amount of damages sustained shall bear interest at the rate of six per centum per annum from the time of the change of grade to the time of the payment of the award.

Added by L. 1910, ch. 701. In effect June 25, 1910.

§ 60. **Drainage, sewer and water pipes, cattle passes or other crossings in highways.**—The town superintendent may, with the consent of the town board, upon the written application of any resident of his town or a corporation, grant permission for an overhead or underground crossing, or to lay and maintain drainage, sewer and water pipes under ground within the portion therein described of a town highway. If the highway is a state or county highway such permission shall be granted with the consent of the county or district superintendent instead of the town board. Permission shall not be granted for the laying and maintaining of such pipes under the travelled part of the highway, except across the same, for the purposes of sewerage and draining swamps or other lands, and supplying premises with water. Such permission shall be granted upon the condition that such pipes and hydrants or crossings shall be so laid, set or constructed as not to interrupt or interfere with public travel upon the highway, and upon the further condition that the applicant will replace the earth removed and leave the highway in all respects in as good condition as before the laying of said pipes, or construction of such crossings, and that such applicant will keep such pipes and hydrants or crossing in repair and save the town harmless from all damages which may accrue by reason of their location in the highway, and that upon notice by the town superintendent the applicant will make the repairs required for the protection or preservation of the highway. The permit of the town superintendent, with the consent of the town board or county or district superintendent, and the acceptance of the applicant, shall be executed in duplicate, one of which shall be filed in the office of the town clerk and the other in the office of the district or county superintendent. In case the applicant shall fail to make any of the repairs required to be made under the permit, they may be made

by the town superintendent at the expense of the applicant, and such expenses shall be a lien, prior to any other lien, upon the land benefited by the use of the highway for such pipes, hydrants or structures. The town superintendent may revoke such permit upon the applicant's failure to comply with any of the conditions contained therein.

§ 61. Trees and sidewalks.— The town superintendent may, by an order in writing, approved by a majority of the members of the town board, authorize the owners of property adjoining the highways, at their own expense, to locate and plant trees and locate and construct sidewalks along the highways, in conformity with the topography thereof, which order with a map or diagram, showing the location of the sidewalk and tree planting, certified by the town superintendent, shall be filed in the office of the town clerk, within ten days after the making of the order.

Willful injury to shade trees. A person who willfully cuts down, girdles or otherwise injures a fruit, shade or ornamental tree standing on the lands of another, or of the people of the State, is guilty of a misdemeanor. Penal Code, § 640, subd. 2.

Rights of electric corporations in respect to shade trees. In stringing its wires a corporation has no right to cut branches of trees belonging to abutting owners, unless such course is demanded by an existing necessity which cannot be avoided by insulating the wires or by employing other practical means which may be more expensive and less convenient. *Van Scien v. Jamaica Electric Light Co.*, 45 App. Div. 1, 61 N. Y. Supp. 210 (1899). The right to the protection of shade trees vested in the owners of adjoining lands is subservient to the proper and legitimate use of the highway by the public. The question as to whether or not the use of public highways in the country by electric lighting companies is within the proper public use of such highways is, in all cases, to be determined by the necessity of the light for the proper use of such highways. *Farmer v. Larchmont Electric Co.*, 158 N. Y. 231 (1899).

§ 62. Expenditures for sidewalks.— The town superintendent of any town may, with the consent of the town board, maintain and repair existing sidewalks in such town, and the expense thereof shall be a town charge. The town board of any such town may on the petition of not less than twenty-five taxpayers of the town, by resolution, direct the town superintendent to construct a sidewalk along a described portion of any highway of the town, in a manner and not exceeding an expense to be specified in the resolution, and the expense of constructing such sidewalk shall be a town charge, and shall be paid in the same manner as other town charges.

§ 63. **Allowance for shade trees.**— There shall be allowed by the town superintendent, with the consent of the town board, to each such owner or occupant, who shall set out or transplant by the side of the highway adjoining his premises, any forest shade trees, fruit trees, or nut bearing trees suitable for shade trees, in conformity with the preceding section, the sum of one dollar for each three living trees so set out or transplanted, to be paid by the supervisors to such owner or occupant, upon the order of the town superintendent out of moneys levied and collected for miscellaneous purposes. Such allowance shall only be made for trees so set out or transplanted during the preceding year, and living and well protected from animals at the time of the allowance. Such trees shall be set out or transplanted not more than eight feet from the outside line of any highway three rods wide, and not more than one additional foot distant therefrom, for each additional rod in width of highway, and not less than seventy feet apart, on the same side of the highway, if elms, or fifty feet, if other trees. Trees transplanted by the side of the highway, in place of trees which have died, shall be allowed for in the same manner.

§ 64. **Custody of shade trees.**— The town superintendent shall have the full control of all shade trees in the public highways of the town, but not within the limits of an incorporated village, and shall prosecute complaints for malicious injury to, or unlawful acts concerning, public shade trees. Upon the recommendation of the town superintendent, the town board may, by resolution, appropriate a sum, not exceeding two hundred dollars, to be known as the "Shade Tree Fund." Such fund shall be placed in the hands of the supervisor as custodian and shall be expended by him upon the written order of the town superintendent, for the setting out and preservation of shade trees along the highways in such town.

§ 65. **Compensation for watering troughs.**— The town superintendent may, with the consent of the town board, authorize the owner or occupant of lands to construct and maintain a watering trough beside the public highway, to be supplied with fresh water, the surface of which shall be three or more feet above the level of the ground and easily accessible for horses with vehicles, but when possible, all such watering troughs shall be constructed on the lower side of the highway. Such watering trough shall be maintained by such owner or occupant and kept supplied with fresh water. The town superintendent shall annually give a

written order upon the supervisor for three dollars to be paid to such owner or occupant by the supervisor, for maintaining such watering trough, and keeping the same supplied with fresh water, out of moneys levied and collected for miscellaneous purposes.

§ 66. **Credit on private road.**—Any person living upon a private road may be credited on account of his highway taxes in any year an amount equal to the value of the work which the town superintendent may deem necessary to be done in such year upon such road. The town superintendent shall issue to him a statement containing the name of the person, the location of the road, the amount of work so deemed necessary to be done, and the value thereof. Such statement shall be presented to the town board at its annual meeting for the audit of town accounts, and if approved by such board, and such work shall have been done, an order shall be issued directing the supervisor to pay the sum specified in such statement to the person therein named, or his assignee, out of moneys in the hands of the supervisor available for highway purposes. The amount so paid in any year shall not exceed the amount payable by the person named in such statement on account of moneys levied in such town for the repair and improvement of highways as provided in this chapter. This section shall not apply to private roads or rights of way over lands of the owner thereof used by him for his own convenience.

§ 67. **Neglect or refusal to prosecute.**—If the town superintendent shall neglect or refuse to prosecute for any penalty, knowing the same to have been incurred, he shall be liable to a penalty of ten dollars for every such neglect or refusal, which shall be recovered by action in the name of the town, by the supervisor, or by any taxpayer of the town who shall indemnify the town for the costs and expense of the action, in such manner as the supervisor may approve.

§ 68. **Erection of guide boards.**—The town superintendent may, with the consent of the town board, cause guide posts with proper inscriptions and devices to be erected at the intersections of such highways therein, as may be necessary, which shall be kept in repair by him at the expense of the town. Upon written application to him, of five resident taxpayers of any town or twenty resident taxpayers of the county in which such town is located, requesting the erection of one or more guide boards at the intersection of highways in such town, it shall be his duty to cause to be erected at the intersections mentioned in such application, such guide boards indicating the direction, distances and names of the

towns, villages or cities to or through which such intersecting highways run. Such application shall designate the highway intersections at which such guide boards are requested to be erected, and may contain suggestions as to the inscriptions and devices to be placed upon such boards. The cost of the erection and maintenance of such boards shall be a town charge. If the town superintendent refuses or neglects for a period of sixty days after receiving such application to comply with the request contained therein, he shall, for such neglect or refusal, forfeit to the town, the sum of twenty-five dollars, to be recovered by the supervisor in the name of the town and the amount so recovered shall be set apart for the erection of such guide boards.

§ 69. Measurement of highways and report.— Within six months after the taking effect of this chapter, and as often as the commission shall direct, the town superintendent shall measure all highways of his town. Such measurements shall be made either by the use of a cyclometer or otherwise as the commission shall direct. He shall ascertain, and indicate in his report, the town highways which have been surfaced with gravel, those which have been surfaced with crushed stone and those which have been shaped and crowned. He shall report in triplicate on forms to be prescribed and furnished by the commission, the total mileage of all highways within his town, specifying as above provided as to town highways, one of which shall be filed with the town clerk, one with the district or county superintendent, and one with the commission.

By an opinion of the Attorney-General under date of May 3, 1909, it was held that if it appears to a town superintendent that a road has not been used for two years preceding his action by more than two vehicles daily, in addition to pedestrians and horseback riders, he has the authority to declare the qualified abandonment of the road; and if this condition has existed for two years prior to his action, he was justified in declaring it abandoned without regard to the occupancy of premises along its route. It was also held, regarding the matter of measurement of qualifiedly abandoned highways, as a part of the town highway, "that the provision of the State Highway Law requiring a measurement of such roads is abrogated and that the same should not be counted as a part of the town's measurement."

It was also held that "The parties living upon or owning property along such road should be assessed and road taxes laid against them the same as all other residents of towns outside of incorporated villages and paid at the same time as their general taxes."

§ 70. Application for service of prisoners.—After satisfying himself that proper quarters can be secured, the town superin-

tendent may, with the consent of the town board, request the supervisor of the town under the provisions of section ninety-three of the county law, to procure the services of prisoners serving sentence in the county jail, for general work upon the public highways of the town.

§ 71. **Construction and repair of approaches to private lands.**—The owners or occupants of lands shall construct and keep in repair all approaches or driveways from the highway, under the direction of the district or county superintendent, and it shall be unlawful for such owner or occupant of lands to fill up any ditch or place any material of any kind or character in any ditch so as to in any manner obstruct or interfere with the purposes for which it was made. The town superintendent may, when directed by the town board, construct and keep in repair such approaches and the expense thereof shall be a town charge.

§ 72. **Unsafe toll bridge.**—Whenever complaint in writing, on oath, shall be made to the town superintendent, of any town in which shall be in whole or in part any toll bridge belonging to any person or corporation, representing that such toll bridge has from any cause become and is unsafe for the public use, such town superintendent shall forthwith make a careful and thorough examination of such toll bridge, and if upon the examination thereof he shall be of the opinion that the same has from any cause become dangerous or unsafe for public use, he shall thereupon give immediate notice to the owners of such toll bridge, or to any agent of such owners, acting as such agent in respect to such bridge, that he has, on complaint made, carefully and thoroughly examined the bridge, and found it to be unsafe for public use. Such owners shall thereupon immediately commence repairing the same, and cause such repairs to be made within one week from the day of such notice given, or such reasonable time thereafter as may be necessary to thoroughly repair the bridge, so as to make it in all respects safe and convenient for public use. For neglect to take prompt and effective measures so to repair the bridge, its owners shall forfeit twenty-five dollars, and shall not demand or receive any toll for using the bridge until the same shall be fully repaired. The town superintendent shall cause such repairs to be made and the owners of the bridge shall be liable for the expense thereof, and for the services of the superintendent, and upon the neglect or refusal to pay the same upon presentation of an account therefor, the town superintendent may recover the same by action, in the name of the town.

§ 73. **Actions for injuries to highways.**— The town superintendent shall bring an action in the name of the town, against any person or corporation, to sustain the rights of the public, in and to any town highway in the town, and to enforce the performance of any duty enjoined upon any person or corporation in relation thereto, and to recover any damages sustained or suffered, or expenses incurred by such town, in consequence of any act or omission of any such person or corporation, in violation of any law or contract in relation to such highway.

§ 74. **Liability of towns for defective highways.**— Every town shall be liable for all damages to person or property sustained by reason of any defect in its highways or bridges, existing because of the neglect of any town superintendent of such town. No action shall be maintained against any town to recover such damages, unless a verified statement of the cause of action shall have been presented to the supervisor of the town within six months after the cause of action accrued. And no such action shall be commenced until fifteen days after the service of such statement.

§ 75. **Action by town against superintendent.**— If a judgment shall be recovered against a town for damages to person or property, sustained by reason of any defect in its highway or bridges, existing because of the neglect of any town superintendent, such town superintendent shall be liable to the town for the amount of the judgment, and interest thereon, but such judgment shall not be evidence of the negligence of the superintendent in the action against him.

§ 76. **Audit of damages without action.**— The town board of any town may audit as a town charge, in the same manner as other town charges are audited, any one claim not exceeding five hundred dollars, for damages to person or property, heretofore or hereafter sustained by reason of defective highways or bridges in the town, if in their judgment it be for the interest of the town so to do; but no claim shall be so audited unless it shall have been presented to the supervisor of the town within six months after it accrued, nor if any action thereon shall be barred by the statute of limitations. The town board may also audit any unpaid judgment heretofore or hereafter recovered against a town superintendent for any such damages, if such town board shall be satisfied that he acted in good faith, and the defect causing such damage did not exist because of the negligence or misconduct of the superintendent against whom such judgment shall have been recovered.

§ 77. **Closing highways for repair or construction.**— If it shall appear necessary to a district or county superintendent to close a highway which is being constructed, improved or repaired under this chapter so as to permit a proper completion of such work, he shall execute a certificate and file the same in the office of the town clerk in which such highway is situated. Such certificate shall state the necessity for the closing of such highway and describe the portion thereof to be closed; not more than two miles of any highway shall be closed at any one time. At the time of filing such certificate such district or county superintendent shall notify the town superintendent to close the highway, who shall thereupon close the same to public travel by erecting suitable obstruction and posting conspicuous notices to the effect that the highway is closed. The town superintendent shall, if practicable, provide a new location for, and construct a temporary highway to be used by the traveling public in lieu of the closed highway and may erect temporary bridges when necessary or cause other existing highways to be used, when so directed by the district or county superintendent. For the purpose of locating, constructing and erecting such temporary highway or bridge the town superintendent may enter upon the lands adjoining or near to the closed highway and may, with the approval of the town board, agree with the owners of such land as to the damages if any caused thereby.

If the town superintendent is unable to agree with such owner upon the amount of damages thus sustained the amount thereof shall be ascertained, determined and paid as provided in section fifty-eight. When such highway shall have been closed to the public as provided herein any person who disregards the obstruction and notice, and drives, rides or walks over the portion of the highway so closed shall be guilty of a misdemeanor.

§ 78. **Adoption of labor system for removing snow.**— The town board of any town at its annual meeting on the first Thursday after general election, may, by resolution, determine that no money shall be raised in such town for the ensuing year for the removal of obstructions in the highways caused by snow, and that such obstructions shall be removed by the labor of persons and corporations liable to be assessed in such towns for highway taxes.

Added by L. 1909, ch. 488, and amended by L. 1910, ch. 136.

§ 79. **Assessment of labor for the removal of snow.**— The town superintendent of a town in which the obstructions in the highways caused by snow shall be removed by the labor of persons and

corporations liable to assessment in each town for highway taxes, pursuant to the last preceding section shall annually on or before November fifteenth divide the town into a convenient number of highway districts and file a description thereof in the office of the town clerk, and before such date shall make an estimate giving the probable number of days labor needed during the following year for the removal of obstructions caused by snow in the highways and for the prevention of such obstructions and shall assess one day's labor upon each male inhabitant of the town above the age of twenty-one years, excepting honorably discharged soldiers and sailors who lost an arm or a leg in the military or naval service of the United States, or who are unable to perform manual labor, by reason of injuries received or disabilities incurred in such service, members of any fire company formed or created pursuant to any statute, and situated within such town, persons seventy years of age or over, clergymen and priests of every denomination, paupers, idiots and lunatics. The balance of such estimated number of days shall be apportioned and assessed upon the estate, real and personal, of every inhabitant of the town, including corporations liable to taxation therein, as the same shall appear by the last assessment roll of the town, and upon each parcel or tract of land owned by the nonresidents, excepting such as are occupied by an inhabitant of the town, which shall be assessed to the occupant. The assessment of labor for personal property must be in the district in which the owner resides, and real property in the district where it is situated, except that the assessment of labor upon the property of corporations may be in any district or districts of the town, and such labor may be worked out or commuted for as if the corporation were an inhabitant of the district; but the real property within an incorporated city or village exempted from the jurisdiction of the town superintendent, and personal property of an inhabitant thereof, shall not be assessed for such labor by the town superintendent. Whenever the assessors of any town shall have omitted to assess any inhabitant, corporation or property therein, the town superintendent shall assess the same, and apportion the labor as above provided.

Added by L. 1909, ch. 488, and amended by L. 1910, ch. 136.

§ 80. Lists of persons assessed for removal of snow.—A copy of the lists of persons and corporations assessed shall be prepared by the town superintendent and filed in the office of the town clerk. The town superintendent may at any time file in the office of the town clerk a supplemental list containing the names of

persons or corporations omitted from the original list, and the names of new inhabitants, and shall assess them in proportion to their real and personal estate as others assessed by him on such list.

Added by L. 1909, ch. 488.

§ 81. District foreman; return and levy of unworked tax.—The town superintendent shall also, immediately after the town has been divided into districts as provided in section seventy-nine of this chapter, appoint a foreman in each district, who shall be a taxable resident thereof, who shall serve for one year and until his successor is appointed and shall receive such per diem compensation, not exceeding two dollars per day, for time actually spent in performing his duties, as the town board may prescribe, payable as the compensation of other town officers is paid. The superintendent shall prepare, from the lists prescribed in section eighty, a separate list for each district of persons and corporations assessed therein for the then current year for labor in removing obstructions caused by snow, showing the number of days labor for which each person or corporation is assessed, and shall deliver each such list to the foreman of the proper district. It shall be the duty of each foreman to notify the several persons and corporations thus assessed, or such of them as the occasion demands, from time to time as needed, that they are required to appear and perform labor in the removal of obstructions caused by snow at a time and place stated by the foreman. On or before the first day of May each district list, showing the portions worked or commuted for, the portions in which parties were notified but failed to perform work after being so notified, and the portions upon which no notice to perform work was served, shall be returned by the district foreman to the town superintendent. All assessments upon which parties have been notified and failed to appear or commute shall then be certified by the town superintendent to the town board, who shall return the same to the board of supervisors of the county and which shall be included by them in the next tax-roll of the town and levied against the persons and corporations assessed at the rate of one dollar and fifty cents per day as other taxes are levied.

Inserted by L. 1910, ch. 136.

§ 82. Appeals by nonresident; certain assessments to be separate; tenant my deduct assessment.—Whenever any nonresident owner of unoccupied land shall conceive himself aggrieved

by any such assessment of any town superintendent, such owner or his agent, may, within thirty days after such list has been filed in the office of the town clerk, appeal to the county judge of the county in which such land is situated, who shall within twenty days thereafter hear and decide such appeal, the owner or agent giving notice to the town superintendent of the time of the hearing before the judge, and his decision thereupon shall be final and conclusive. Whenever the town superintendent shall assess the occupant for any land not owned by such occupant, he shall distinguish in his assessment list the amount charged upon such list, from the personal tax, if any, of the occupant thereof; but when any such land shall be assessed in the name of the occupant, the owner thereof shall not be assessed during the same year on account of the same land. Whenever any tenant of any land, for a less term than twenty-five years, shall be assessed to work on the highways for such land, and shall actually perform such work or commute therefor, he shall be entitled to a deduction from the rent due or to become due from him for such land, equal to the full amount of such assessment, estimating the same at the rate of one dollar per day, unless otherwise provided for by agreement between the tenant and his landlord. Whenever the highways in any district are obstructed by snow, the town superintendent shall immediately call upon the persons and corporations in such district assessed for labor in pursuance of the preceding sections to assist in removing such obstruction, and shall credit such persons or corporations with the days' labor so performed. If any persons, corporations or occupants of land owned by nonresidents so called out neglect or refuse to appear at the place designated by the town superintendent or to commute at a dollar a day within twenty-four hours after due notice, the town superintendent shall cause the obstruction to be immediately removed and on or before September first of each year, or at such other time as the board of supervisors may by resolution prescribe, make out a list of all persons, corporations or occupants of lands owned by nonresidents who shall fail to work out such labor or commute therefor, with the number of days not worked out or commuted for by each, charging for each day in such list at the rate of one dollar and fifty cents per day, verified to the effect that such persons, corporations or occupants of lands owned by nonresidents have been notified to appear and perform such labor or commute therefor, and that the same has not been performed or commuted. Such

list shall be certified by the town superintendent of such town to the town board and by such town board to the board of supervisors and the highway commission, and the amount of such arrearages shall be levied by such board of supervisors against and collected from the real or personal estate of such persons and corporations and from the real estate owned by nonresidents specified in such list, to be collected by the collectors of the several towns in the same manner that other town taxes are collected, and shall order the same when collected to be paid over to the supervisor to be by him added to the highway fund of the town. No persons or corporations shall be allowed any sum for highway labor performed in removing obstructions caused by snow, unless authorized or directed by the town superintendent to perform such labor. It shall be the duty of the town superintendent on or before the thirty-first day of October in each year to file with the highway commission a statement showing the number of days' labor assessed. It shall also be the duty of the town superintendent to file with the highway commission on or before the first day of June in each year a statement showing the number of days' labor performed or commuted for, the number of days' labor on which parties were notified but failed to labor, also the number of days' labor upon which no notice to appear was given.

Added by L. 1909, ch. 488. Renumbered and amended by L. 1910, ch. 136.

ARTICLE V.

Highway Moneys; State Aid

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| Section | 90. Estimate of expenditures for highways and bridges. |
| | 91. Duties of town board in respect to estimates; levy of taxes. |
| | 92. Additional tax. |
| | 93. Extraordinary repairs of highways and bridges. |
| | 94. Limitations of amounts to be raised. |
| | 95. Submission of propositions at town meetings. |
| | 96. Borrowing money in anticipation of taxes. |
| | 97. Towns may borrow money for bridge and highway purposes. |
| | 98. Issue and sale of town bonds. |
| | 99. Assessment of village property. |
| | 100. Statement by clerk of board of supervisors. |
| | 101. Amount of state aid. |
| | 102. Mileage and assessed valuation. |
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| | 104. Custody of highway moneys; undertaking of supervisor. |
| | 105. Expenditures for repair and improvement of highways. |
| | 106. Expenditures for bridges and other highway purposes. |
| | 107. Reports of supervisor as to highway moneys. |

Section 108. Highway accounts; forms and blanks.

109. Duty of town clerk.

110. Compensation of supervisor and town clerk.

111. Additional expenditure for improvement, repair and maintenance of town highways.

§ 90. Estimate of expenditures for highways and bridges.—

The town superintendent shall annually, on or before the thirty-first day of October, make a written statement in respect to the amount of money which should be raised by tax in the town for the ensuing year, beginning on said first day of November, for the purposes therein set forth which shall be filed with the town clerk. Such statement shall specify:

1. The amount of money necessary to be levied and collected for the repair and improvement of highways, including sluices, culverts and bridges having a span of less than five feet. Such amount shall not be less than an amount which when added to the amount of money to be received from the state, under the provision of section one hundred and one, will equal thirty dollars for each mile of highways within the town, outside the limits of incorporated villages, except that no town having an assessed valuation of three thousand seven hundred and fifty dollars or less per mile outside of incorporated villages shall be required to levy and collect a tax under this subdivision in excess of four dollars on each thousand dollars of assessed valuation.

2. The amount of money necessary to be levied and collected for the repair and construction of bridges, having a span of five feet or more.

3. The amount of money necessary to be levied and collected for the purchase, repair and custody of stone crushers, steam rollers, traction engines, road machines for grading and scraping, tools and implements.

4. The amount of money necessary to be levied and collected for the removal of obstructions caused by snow and for other miscellaneous purposes.

The amounts specified in such statement shall not exceed the limitations prescribed in section ninety-four. If the town superintendent is of the opinion that an amount in excess of the limitations therein prescribed be raised by tax he shall include in his statement his reasons therefor in detail.

Change in method of highway taxation. One of the objects sought by this law is the abolishing of the old labor system of taxation and substituting in

place thereof in all towns the money system of raising highway taxes. This has affected the method of highway taxation in less than three hundred of the nine hundred and thirty-three towns of the State. In other towns the money system is in force when this chapter takes effect. In towns adopting the money system, under the former law, the amount of the tax to be levied and collected in the town was to be determined by the commissioner or commissioners of highways and the town board. See former Highway Law, § 53. The minimum amount to be collected in such towns for the repair of highways was required, by that section, to at least equal one-half the value of the commutation rates, of the highway labor which should be assessable under the labor system. This section of the former law did not, nor does the present law, prescribe the maximum amount which could be raised by tax for the repair and maintenance of highways.

If it became necessary to raise money by tax upon the town for other purposes than the repair and maintenance of highways, authority therefor, either expressed or implied, had to be found in the various more or less conflicting provisions of the former law. The new law seeks to eliminate this confusion by placing the initiative with the town superintendent, making it his duty to present to the town board in a formal statement, the amount, which in his opinion, should be raised in the town during the ensuing year for the purposes specified therein. This statement is in the nature of a highway budget. It becomes effectual and binding upon the town when finally approved by the town board. Upon such approval it is to be submitted to the board of supervisors who thereupon must cause the amounts specified in the statement to be levied and collected in the town in the same manner as other charges against the town are levied and collected. It is thus provided that an amount sufficient to properly administer highway affairs in the town for the ensuing year will be collected and ready for use in the hands of the supervisor. This statement must be submitted on or before the thirty-first day of October, which brings it to the attention of the town board so that the town board may act upon it at its regular meeting on the Thursday preceding the annual meeting of the board of supervisors. The levy is made by the board of supervisors at its annual meeting and when the tax warrant reaches the hands of the collector it provides for the collection of money sufficient to take care of highway matters during the ensuing year. Such moneys will be paid over to the supervisor, for the most part, in the months of January, February or March, prior to the time when active operations upon the highways are required to be begun.

By an opinion of the Attorney-General under date of February 10, 1909, it was held that observance of the provisions of subdivision 1 of section 90 of the Highway Law is a condition precedent to a town receiving State aid. It was also held that the minimum amount provided by the statute for the repair and improvement of highways must be levied and collected each year, irrespective of any balance remaining over from other years.

By an opinion of the Attorney-General under date of May 24, 1909, it was held that property purchased with pension money is liable for taxation under each of the subdivisions of section 90.

§ 91. Duties of town board in respect to estimates; levy of taxes.
—The town board, at its meeting held on the Thursday succeeding general election day in each year, shall consider the esti-

mates contained in such statement. It may by a majority vote of the members thereof, approve such statement, or increase or reduce the amount of any of the estimates contained therein, subject to the limitations prescribed in section ninety-four. The statement as thus approved, increased or reduced shall be signed in duplicate by a majority of the members of the town board, one of which shall be filed in the office of the town clerk, and the other shall be delivered to the supervisor. The town clerk shall make and transmit a copy of such statement to the commission. The supervisor shall present such statement to the board of supervisors, and such board shall cause the amounts therein, subject to the limitation requiring a vote of the electors as hereafter provided, to be assessed, levied and collected in such town in the same manner as other town charges, and such amounts shall be expended for the purposes specified in such statement. The warrant for the collection of taxes in such town shall direct the payment of the money so collected to the supervisor of the town, to be held by him and paid out for the purposes specified in such statement, as provided in this chapter.

Insufficient appropriations. In the absence of authority conferred upon him the town superintendent has no power to proceed with the improvements, and apply in payment therefor the appropriation for the succeeding year, and expenditures so made create no legal claim against the town. *People ex rel. Peterson v. Clark*, 45 App. Div. 65, 60 N. Y. Supp. 1045 (1899). The town superintendent of highways cannot of his own volition bind the town for a greater amount than that estimated, levied and collected. *Mather v. Crawford*, 36 Barb. 564 (1862); *Barker v. Loomis*, 6 Hill, 463 (1844).

§ 92. **Additional tax.**—Whenever the town superintendent and the town board shall determine that the sum of one thousand dollars will be insufficient to pay the expenses actually necessary for the removal of obstructions caused by snow and the prevention of such obstructions, and whenever they shall determine that the amounts levied and collected for any of the purposes mentioned in the statement presented to the board of supervisors, as provided in the preceding section, are insufficient to pay the expenses necessarily incurred for any of the purposes therein specified they may cause a vote to be taken by ballot at a biennial town meeting or at a special town meeting duly called therefor, authorizing such additional sum to be raised as they may deem necessary for such purpose, not exceeding one-third of one per centum upon the taxable property of the town as shown by the last assessment-roll thereof.

§ 93. Extraordinary repairs of highways and bridges.— If any highway or bridge shall at any time be damaged or destroyed by the elements or otherwise, or become unsafe for public use and travel, or if any bridge be condemned by the commission, as provided in this chapter, the town superintendent shall cause the same to be immediately repaired or rebuilt with the approval of the town board. Such highway or bridge shall be so repaired or rebuilt in accordance with the directions or the plans and specifications prepared or approved by the district or county superintendent; except if the bridge to be repaired or rebuilt is one which has been condemned by the commission, as provided in this chapter, the same shall be repaired or rebuilt in accordance with plans and specifications to be prepared or approved by the commission. If the expense of repairing or rebuilding a bridge hereunder shall exceed five hundred dollars, it shall be done under a written contract therefor, which must be approved by the town board. The town clerk shall prepare a statement showing the probable cost of improving, repairing or rebuilding such highway or bridge, which statement shall be signed in duplicate by a majority of the members of the town board, one of which duplicates shall be filed with the town clerk and one be delivered to the supervisor. The town clerk shall make a copy of such statement and transmit the same to the commission. The supervisor shall present such statement to the board of supervisors, who shall cause the amount contained in such statement to be assessed, levied and collected in the same manner as amounts levied and collected for other highway and bridge purposes, as provided by law. The amount so raised shall be paid to the supervisor to be expended for the purposes specified in such statement.

Application. This section does not authorize the rebuilding of a bridge which has become defective by ordinary wear and tear or the natural decay of the materials of which it was constructed, at a cost exceeding the moneys appropriated for highway purposes; it only authorizes such construction where the bridge has become destroyed by some emergency or by some extraordinary cause. It is more than doubtful if this section has any relation to or was intended to apply where a bridge or its approaches are partly in two towns. *People ex rel. Canton Bridge Co. v. Town Auditors*, 136 App. Div. 166 (1909), 120 N. Y. Supp. 696.

§ 94. Limitations of amounts to be raised.— The amounts to be raised by tax upon the vote of a town board, as provided in this article, shall be subject to the following limitations:

1. The amount to be levied and collected in each year for the repair and improvement of highways, including sluices, culverts

and bridges having a span of less than five feet, shall not be less than the amount prescribed under subdivision one of section ninety.

2. Not more than fifteen hundred dollars shall be levied and collected in any one year in any town for the repair and construction of a bridge unless duly authorized by vote of a town meeting.

3. Not more than five hundred dollars shall be levied and collected in any one year in any town for the purchase or repair of stone crushers, steam rollers, traction engines or road machines for grading and scraping, tools and implements, unless duly authorized by the vote of a town meeting.

4. Not more than fifteen hundred dollars shall be levied and collected in any one year in any town for the repair or construction of any highway or bridge which has been damaged or destroyed as provided in section ninety-three or which has been condemned by the commission as provided in this chapter, unless duly authorized by vote of a town meeting.

Debts in excess of limitation. A town superintendent has no general authority to bind the town by his contracts. He must find his authority in the statute, and those who deal with him, and with the other officers of the town are presumed to know this limitation of power. See *People ex rel. Everett v. Supervisors*, 93 N. Y. 397 (1883); *Berlin Bridge Co. v. Wagner*, 57 Hun, 346, 10 N. Y. Supp. 840 (1890). If he and the town board attempt to raise by tax more money than the limit prescribed by this section, the levy would be invalid, and the collection of the tax might be legally prevented.

§ 95. Submission of propositions at town meetings.—A proposition to authorize the levy and collection of an amount greater than that specified in the preceding section for any of the purposes therein mentioned may be submitted upon the written application of twenty-five taxpayers upon the last town assessment-roll or by a majority of the members of the town board, at a biennial town meeting or a special town meeting duly called as provided by law. The provisions of the town law relating to the submission of town propositions at a biennial or special town meeting shall apply to the submission of such propositions. If such proposition be adopted the town board shall include in the estimates contained in the next statement submitted by it to the board of supervisors, as provided in section ninety-one, the amounts authorized to be raised by such proposition for the purposes therein stated, and thereupon such amounts shall be levied and collected, and paid to the supervisor, to be expended by him as directed by such proposition.

§ 96. **Borrowing money in anticipation of taxes.**—The supervisor may, when authorized by the town board, borrow money in anticipation of taxes to be levied and collected, on the credit of the town, and issue certificates of indebtedness therefor in the following cases:

1. When an additional sum is directed to be levied and collected by a vote of a town meeting as provided in section ninety-two.

2. When an amount necessary for the payment of expenses incurred in the improvement, repair and rebuilding of a highway or bridge has been directed to be levied and collected as provided in section ninety-three.

3. When a proposition has been adopted at a town meeting as provided in section ninety-five authorizing the levy and collection of an amount greater than that specified in section ninety-four for any of the purposes therein mentioned.

Such certificates of indebtedness shall be signed by the supervisor and the town clerk and shall bear interest at a rate not exceeding six per centum for a period not exceeding one year. The amount so borrowed shall be paid out by the supervisor for the purposes for which the taxes, in anticipation of which such certificates were issued, is to be levied and collected. The principal and interest of such certificates shall be paid by the supervisor immediately upon the collection of the taxes levied for such purposes.

§ 97. **Towns may borrow money for bridge and highway purposes.**—A proposition may be submitted at a regular or special town meeting in the manner provided by the town law, authorizing the town to borrow money upon its bonds, or other obligations, to be expended for the following purposes:

1. Constructing, building, repairing or discontinuing any highway or bridge therein, or upon its borders.

2. Repairing or rebuilding any highway or bridge which shall at any time be damaged or destroyed by the elements or otherwise, or become unsafe for public use and travel.

3. Repairing or rebuilding any bridge which has been condemned by the commission, as provided in this chapter.

4. The purchase of stone crushers, steam rollers and traction engines.

The vote upon any such proposition shall be by ballot. If any such proposition shall be adopted, the board of supervisors, upon the application of the town board, shall by resolution author-

ize the town to issue bonds not exceeding the amount specified in said proposition, which shall be sufficient to refund and pay any temporary loan or certificate of indebtedness, and to provide for the completion of any work authorized. There shall accompany such application a statement signed by a majority of the members of the town board, and certified by the town clerk, containing a copy of the proposition submitted, as above provided, the vote for and against the same, and specifying the amount which it is estimated will be required to be expended, pursuant to such proposition. If the highway or bridge, proposed to be constructed, built, repaired or discontinued, is situated in two or more towns in the same county, the board of supervisors shall, if application be made by each of such towns, apportion the expense thereof among such towns, in such proportion as it shall deem to be just. If the town adopting any such proposition shall contain any portion of the land of the forest reserve, the board of supervisors shall not authorize such town to borrow moneys without the written approval of the forest, fish and game commissioner, except in payment of a debt lawfully incurred by the town.

§ 98. **Issue and sale of town bonds.**—The board of supervisors shall, from time to time, impose upon the taxable property of the town a tax sufficient to pay the principal and interest of such obligations as they shall become due. The supervisors and town clerk shall each keep a record, showing the date and amount of the obligations issued, the time and place of their payment, and the rate of interest thereon. The obligations shall be delivered to the supervisor of the town, who shall dispose of the same for not less than par and apply the proceeds thereof for the purposes for which they were issued. Not more than five hundred dollars of such proceeds shall be expended upon any highway or bridge, except in pursuance of a contract executed by the town superintendent as provided in section forty-eight.

§ 99. **Assessment of village property.**—In any town in which there may be an incorporated village, which forms a separate road district, and wherein the roads and streets are maintained at the expense of such village, all property within such village shall be exempt from the levy and collection of taxes levied in the town, as provided by section ninety-one of this article, for the repair and improvement of highways, including sluices, culverts and bridges having a span of less than five feet. The assessors of such town shall indicate in a separate column the value of the real and personal property included in such incorporated village.

§ 100. **Statement by clerk of board of supervisors.**— The clerk of the board of supervisors of each county shall, on or before the first day of January of each year, transmit to the state comptroller and the commission a statement, signed and verified by the chairman of the board, and certified by the clerk, which shall state the name of each town, the assessed valuation of real property, and the assessed valuation of personal property, each separately, in the towns outside incorporated villages, and the amount of tax levied therein for the repair and improvement of highways, including sluices, culverts and bridges having a span of less than five feet. The towns' valuation of real property to be used in such statement shall be the valuation thereof, as equalized by the boards of supervisors, or other competent authority, during the year prior to the levy of taxes upon which is based the determination of the amounts to be paid to the several towns, as provided in this article.

Object of statement. The purpose of this statement is to afford the state comptroller and the commission information sufficient to permit a payment to each town of the amount to which it is entitled under section 100. The amount so to be paid to each town is based upon the amount of taxes levied therein for the repair and improvement of highways. The final estimate of the amounts to be raised for highway purposes within the town being approved by the town board, and submitted to the board of supervisors it becomes the duty of the board to levy a tax upon the town sufficient to meet highway requirements during the ensuing year. The amount of taxes levied for the repair and improvement of highways should be kept separately from the taxes levied for the other purposes mentioned in such estimate so that the clerk of the board of supervisors may prepare the statement required by this section.

State aid is not only allowed on account of moneys raised for the repair and improvement of highways. If an additional amount is raised for such repair and improvement, as provided in section 92, it should be included in the statement.

§ 101. **Amount of state aid.**— There shall be paid by the state to the several towns, in the manner hereinafter provided, an amount based upon the amount of taxes levied therein for the repair and improvement of highways, sluices, culverts and bridges having a span of less than five feet, and to be determined as follows:

1. In towns where the assessed valuation of real and personal property, exclusive of such property in incorporated villages, shall be less than five thousand dollars for each mile of highways in such towns, outside of incorporated villages, an amount equal to the amount of such taxes.

2. In towns where such assessed valuation shall be five thousand dollars or over and less than seven thousand dollars for each mile of such highways, an amount equal to ninety per centum of the amount of such taxes.

3. In towns where such assessed valuation shall be seven thousand dollars or over and less than nine thousand dollars for each mile of such highways, an amount equal to eighty per centum of the amount of such taxes.

4. In towns where such assessed valuation shall be nine thousand dollars or over and less than eleven thousand dollars for each mile of such highways, an amount equal to seventy per centum of the amount of such taxes.

5. In towns where such assessed valuation shall be eleven thousand dollars or over and less than thirteen thousand dollars for each mile of such highways, an amount equal to sixty per centum of the amount of such taxes.

6. In towns where such assessed valuation shall be thirteen thousand dollars or over for each mile of such highways, an amount equal to fifty per centum of such taxes. Provided that no town shall receive from the state in any year, under this section, an amount exceeding an average of twenty-five dollars per mile, for the total mileage of its highways outside of incorporated villages, except that in towns where the assessed valuation of real and personal property therein, exclusive of such property in incorporated villages, averages more than twenty-five thousand dollars for each mile of highways therein outside of such villages, the amount paid hereunder shall not exceed one-tenth of one per centum of such assessed valuation.

From an opinion of the Attorney-General under date of October 24, 1910, it was held:

"It is evident that the use of moneys * * * moneys raised for the repair and improvement of highways, including state aid, are never available for the construction of new town roads and could not be legally diverted to any other use. The different funds are required to be kept separate by section 107 of the Highway Law, also by order of the State Highway Commission, and a surplus in one fund is not available for use for other work. I am, therefore, of the opinion that moneys known as state aid cannot be used in the building and construction of new town roads or for the payment of damages awarded to land owners in the laying out of a new highway, or for any other purpose except the repair and improvement of the highways of the town.

"In reply to that part of your enquiry as to how the town can procure the necessary money to build a highway, if it cannot be taken from the

general fund for the repair and improvement of the highways, I beg to state that section 90 of the Highway Law requires the town superintendent to make estimates of the amounts that should be raised by tax in the town for the ensuing year, and by subdivision 4 thereof he can make an estimate and present it to the town board of the amount which he deems necessary should be raised for building a town highway that has been newly laid out. It is certainly a miscellaneous purpose not provided for in any other subdivision of that section. There is no limitation to the amount that can be raised for miscellaneous purposes except as it is controlled by the public necessities of the town.

"It is also a purpose that can only arise occasionally in any town and is not of annual occurrence like most of the other purposes mentioned in the act referred to.

"The estimates above mentioned are then laid before the town board and if it approves the several amounts are laid before the board of supervisors and raised in the same way as other highway taxes in the town, but if this method is not deemed expedient and if any town board should not feel that it was authorized to raise the amount as above outlined, a proposition can be submitted as provided by section 97 of the Highway Law to the voters of the town."

§ 102. Mileage and assessed valuation.—The mileage of highways in towns to be used in determining the amounts to be paid to such towns under the provisions of this article shall be the tables of mileage heretofore prepared by the state engineer, until the corrected tables of mileage prepared as provided in section fifteen of this chapter are filed. Such tables and all corrections thereof shall be filed with the commission and comptroller. The assessed valuation of real property to be used in determining such amounts shall be the valuation thereof, equalized as provided in section one hundred and forty-one of this chapter, during the year prior to the levy of taxes upon which is based the determination of the amounts to be paid to the several towns, as provided in this article.

§ 103. Payment and distribution of state money.—The comptroller shall determine the amount due to the several towns, under the provisions of this article, and shall draw his warrant upon the state treasurer in favor of the county treasurer of each county for the total amount to be paid to the towns in such county, as so determined by him, and shall indicate the amount to be paid to each town. The county treasurer shall pay to the supervisor of each town the amount to which such town is entitled, as determined and indicated by the comptroller. No such payment shall be made until the supervisor has filed in the office of the county treasurer a certified copy of the undertaking given by him, as provided in this article.

§ 104. Custody of highway moneys; undertaking of supervisor.—

All moneys levied and collected, as provided in this article, all moneys collected as penalties under this chapter, or received from any other source and available for highway, bridge and miscellaneous purposes and all moneys received from the state, as provided in section one hundred and one, shall be paid to the supervisor, who shall be the custodian thereof, and accountable therefor. Before receiving any such moneys the supervisor shall give an undertaking to the town in an amount to be specified by the commission and with such surties, as shall be approved by the town board, conditioned for the faithful disbursement, safe-keeping and accounting of the moneys so received by him. Such undertaking shall be filed in the office of the town clerk and a certified copy thereof shall be filed in the office of the county treasurer before any moneys received from the state shall be paid to him, and also in the office of the commission. In case of a failure of the supervisor to faithfully disburse, safely keep or account for moneys received from the state the commission may bring an action on such bond in the name of the town.

By an opinion of the Attorney-General under date of May 4, 1910, it was held, that "The rules and regulations made by your Commission requiring the supervisor to keep the highway funds of the town in a separate account, are clearly within your authority, and, considered in the light of the several provisions of the statute above referred to, it is made your duty to formulate and provide the same; and it is clear that you can compel compliance with such rules and regulations in the event of a failure or refusal to comply therewith."

By an opinion of the Attorney-General under date of May 8, 1909, it was held that "No highway moneys can be paid to such supervisor until he has executed and filed in the office of his town clerk, a bond in such an amount as your Commission may specify, to be approved by the town board of your town, and until such bond has been executed the county treasurer would have no right to pay over any highway moneys to him."

§ 105. Expenditures for repair and improvement of highways.—

The moneys levied and collected for the repair and improvement of highways, including sluices, culverts and bridges having a span of less than five feet, and the moneys received from the state, as provided by section one hundred and one, shall be expended for the repair and improvement of such highways, sluices, culverts and bridges, at such places and in such manner as may be agreed upon by the town board and town superintendent. The town board and the town superintendent shall constitute a board for the purpose of determining the places where and the manner in

which such moneys shall be expended. Such agreement shall be written and signed in duplicate by a majority of the members of the board so constituted, and shall be approved by the commission, before the same shall take effect. One of such duplicates shall be filed in the office of the town clerk and one in the office of the district or county superintendent. Such moneys shall be paid out by the supervisor on the written order of the town superintendent in accordance with such written agreement.

By an opinion of the Attorney-General under date of April 16, 1909, it was held that "The services of snow shovelers and road workers come under the provision of section 105 of the new Highway Law, and claims for such work are to be paid by the supervisor upon the written order of the commissioner of highways (superintendent after Nov. 1st, 1909) and do not require to be audited by the town board, before payment."

§ 106. Expenditures for bridges and other highway purposes.—

The moneys levied and collected, or raised by the issue and sale of bonds or certificates of indebtedness in anticipation of taxes, as provided in this article, for purposes other than the repair or improvement of highways, as specified in the preceding section, shall be paid out by the supervisor upon the written order of the town superintendent after audit of the town board. Such audit shall be made on verified accounts presented to the town board at a regular or special meeting called for such purpose by the supervisor, or in his absence, by the town clerk, upon the request of the town superintendent. An account shall not be so audited or paid unless the expenditure be in accordance with the annual estimate of the town superintendent, as approved or modified by the town board, or be authorized by the town board or by a vote of a town meeting, as provided in this article, or be lawfully a charge upon the town. Except as herein otherwise provided the provisions of the town law relating to the audit of town accounts and claims shall apply to accounts and claims against the town arising under this chapter.

§ 107. Reports of supervisor as to highway moneys.—The supervisor shall present to the town board at its meeting held in each year, for considering the estimates contained in the statement of the town superintendent, as provided in section ninety-one, a verified report showing:

1. The moneys received from the state, as provided in section one hundred and one during the year ending October thirty-first.
2. The moneys received by him during such year on account

of taxes levied and collected and from the issue and sale of bonds and certificates of indebtedness in anticipation of taxes, for highways, bridges, purchase and repair of machinery, tools and implements, the removal of obstructions caused by snow and for miscellaneous purposes.

3. The moneys received by him during such year as penalties recovered pursuant to this chapter, or from any other source and available for highway purposes in his town.

4. The expenditures during such year for the improvement, repair and maintenance of highways, for the maintenance and repair of bridges, for the construction of new bridges, for damages and charges in laying out, altering and discontinuing highways, for the removal of obstructions caused by snow, for the purchase of machinery, tools and implements, for the rental or hire of stone crushers, steam rollers and traction engines, for town superintendents' salary or compensation and audited expenses, for allowances as fees on account of receiving and disbursing highway moneys, or for other highway purposes.

5. All machinery, tools and implements owned in whole or in part by the town, the present value of each article thereof, and the estimated cost of all necessary repairs thereto, as shown by the annual inventory of the town superintendent.

The form of such report shall be prescribed by the commission. Such report shall be filed in the office of the town clerk within three days after the presentation thereof and shall be open to public inspection during the office hours of such town clerk and a duplicate shall at the same time be mailed to the commission. A certified copy of such report shall also be filed by the supervisor with the clerk of the board of supervisors, who shall cause the same to be printed in the next issue of the annual proceedings of the board of supervisors. The town board shall cause a certified copy of the report to be published in a newspaper published in the town, or if there be none published therein, then in a newspaper published within the county and having the greatest circulation within the town. The expense of such publication, which shall not exceed ten dollars, shall be a town charge. The clerk of the board of supervisors shall transmit three copies of the journal of the proceedings of the board containing such report to the commission and three copies to the comptroller.

The report is to be presented at the meeting of the town board held on the Thursday succeeding general election day in each year. This is the

annual audit meeting of the board in most towns. It is at this meeting that the estimate of the town superintendent is presented and considered. The result is that the town board at the time that it revises the town superintendent's estimate for the succeeding year has before it the report of the supervisor as to the expenditures of town moneys for highway purposes in the preceding year.

§ 108. **Highway accounts, forms and blanks.**— The commission shall prescribe the method of keeping town accounts of moneys received and expended, as provided in this article, for highways, bridges, purchase, leasing, rental or hire and repair of machinery, tools and implements, the removal of obstructions caused by snow, and miscellaneous purposes, which shall be uniform, so far as practicable, throughout the state. Such commission may adopt forms and blanks for keeping such accounts. The commission shall also prescribe the form of order to be made by the town superintendent, upon the supervisor, and the form of the agreement to be entered into by the town board and town superintendent as provided in section one hundred and five. The town superintendent and supervisor shall keep their accounts in the method, and shall use the blanks and forms, prescribed by the commission. All orders and records of accounts shall be filed in the town clerk's office and preserved as a part of the town records.

§ 109. **Duty of town clerk.**— It shall be the duty of the town clerk, annually, between the fifteenth day of November, and the fifteenth day of December, to transmit to the commission a list containing the names of each supervisor, town superintendent, justice of the peace, town clerk, assessor and collector, showing his post office address, the date of his appointment or election and the expiration of his term of office.

§ 110. **Compensation of supervisor and town clerk.**— The supervisor and town clerk of each town shall receive annually, as compensation for services under this chapter in lieu of all other compensation and fees, an amount to be fixed by the town board. Such compensation shall be a town charge.

§ 111. **Additional expenditure for improvement, repair and maintenance of town highways.**— Upon the written application of twenty-five taxpayers of a town, filed with the town clerk, the electors thereof may, at a regular or special town meeting, vote by ballot upon a proposition for the expenditure of a sum, not exceeding one-third of one per centum of the total taxable property of the town, including incorporated villages, in addition to the sum authorized by this chapter for the improvement, repair

and maintenance of town highways in such town. Such proposition shall be submitted in the manner provided by law for the submission of questions or propositions at a town meeting. If such proposition be adopted, the amount specified therein shall be a town charge and shall be levied and collected in the same manner as other town moneys, and when collected shall be paid to the supervisor and expended for the purposes specified in such proposition as provided in this chapter.

The object of this section is to authorize the raising of a special amount for the repair, improvement and maintenance of town highways. It permits of a submission to the vote of a town meeting of the question as to the amount which shall be expended each year upon the town highways, whenever it is thought desirable to make more extensive improvements than the town board and town superintendent have decided upon. This section permits a town meeting to control the amount to be expended where it seems that the town board has been too conservative in its estimates.

ARTICLE VI.

State and County Highways.

- Section 120. Highways to be constructed or improved by the state.
121. Construction or improvement of state highways.
 122. Construction or improvement of county highways.
 123. Preliminary resolution of board of supervisors.
 124. Examination of county highway; approval or disapproval of commission.
 125. Maps, plans, specifications and estimates.
 126. Submission of maps, plans and specifications to district or county superintendent.
 127. Action of commission in respect to maps, plans, specifications and estimates.
 128. Final resolution of board of supervisors.
 129. Order of construction of county highways.
 130. Contracts for construction or improvement of highways.
 131. Award of contracts to board of supervisors or town board.
 132. Suspension of work under contract, completion by commission.
 133. Acceptance of state highway when completed.
 134. Acceptance of county highway.
 135. Entry upon adjacent lands for drainage purposes.
 136. Damages for entry.
 137. State and county highways in villages.
 138. Connecting highways in villages.
 139. Resolution to provide for raising money.
 140. Modifying method of payment.
 141. Division of cost of county highways; payments by county treasurer.
 142. County or town may borrow money.

Section 143. Payments from state treasury.

- 144. Payment of cost of state highway.
- 145. Abolition of railroad grade crossings.
- 146. Street surface railroads on highways.
- 147. Where cost is assessable against abutting owners.
- 148. Acquisition of lands for right of way and other purposes.
- 149. Purchase of lands.
- 150. Petition to acquire lands.
- 151. Commissioners to be appointed.
- 152. Duties of commissioners.
- 153. County treasurer to pay award.
- 154. Costs; commissioners' fees.
- 155. Lands may be sold or leased; disposition of proceeds.
- 156. Provisions of labor law not applicable.
- 157. Highways and bridges on Indian reservations.

§ 120. Highways to be constructed or improved by the state.—

The highways which have been heretofore constructed or improved under the provisions of chapter one hundred and fifteen of the laws of eighteen hundred and ninety-eight, and the acts amendatory thereof, which are included in the routes hereinafter described, together with such other highways as are constructed or improved by the commission in accordance with the routes set forth and described in this section, shall be state highways and shall be constructed or improved at the sole expense of the state as provided in this article. Such routes are hereby set forth and described as follows:

Route 1. Commencing at a point on the dividing line between Westchester county and New York, and running thence northerly through Mount Vernon to Eastchester road, thence northerly along Eastchester road, thence westerly in Eastchester to Post road, thence northerly along Post road to White Plains, thence southeasterly along Westchester avenue to Purchase street, thence northerly by Purchase street, by Rye lake and King street to state road, thence northerly by same to Armonk, thence easterly and northeasterly through the town of North Castle to Bedford village, thence northerly to Katonah, thence along the east side of the Croton river by Golden's bridge and Purdy's station to a point on the dividing line between Putnam and Westchester counties at or near Croton Falls, running thence northerly through the eastern portion of Putnam county by the way of Brewster, to a point on the dividing line between Dutchess and Putnam counties at or near Patterson, running thence northerly by the way of Pawling, Wingdale, Dover Plains, Amenia, to a point to be determined by

the commission, on the dividing line between Columbia and Dutchess county, running thence northerly in Columbia county by the way of Copake to Chatham, thence northwesterly to a point at or near Valatie, running thence northerly to a point to be determined by the commission, on the dividing line between Rensselaer and Columbia counties, running thence northerly and northwesterly through the southwestern portion of Rensselaer county to a point to be determined by the commission on the Hudson river opposite or nearly opposite the city of Albany.

Route 2. Commencing at Jerome avenue on the dividing line between Westchester county and New York city and running thence northerly along Jerome avenue and Central Park avenue to Hartsdale, thence along the Sprain road and Landers road to Fair Grounds, thence northerly to cross road between Greenburgh, and Mount Pleasant, thence westerly along the same to the Saw Mill River road and the Tarrytown Lake road to Bedford road, thence along the Sleepy Hollow road northerly and westerly to the Albany post road, thence northerly along Albany post road through Briar Cliff, Ossining and Croton Landing, thence along Old Yorktown road to Cornell Dam, thence along westerly side of Croton lake to Dixie Hill, thence northerly along Croton avenue to Crompound road, thence westerly along Crompound road through Peekskill to Albany post road, thence northerly from Peekskill, to a point to be determined by the commission, on the dividing line between the towns of Phillipsburg, Putnam county, and Cortlandt, Westchester county, running thence northerly through the western portion of Putnam county to a point to be determined by the commission, on the dividing line between Dutchess and Putnam counties, running thence northerly by the way of the city of Poughkeepsie and Rhinebeck, to a point to be determined by the commission, on the dividing line between Columbia and Dutchess counties, running thence northerly, through Blue Store and Johnstown to Bell's Pond, and thence northerly along the Ancram turnpike and North avenue, to the city of Hudson, running thence northeasterly from the city of Hudson to a point at or near Valatie, connecting with route number one, as above described.

Amended by L. 1910, ch. 648.

Route 3. Commencing at a point to be determined by the commission, on the dividing line between the town of Orangetown, Rockland county, and the state of New Jersey, running thence

northerly through the eastern portion of Rockland county by the way of points at or near Nyack and Haverstraw, to a point to be determined by the commission, on the dividing line between Orange and Rockland counties, running thence northerly through the eastern portion of Orange county to the city of Newburgh, thence northerly from the city of Newburgh to a point to be determined by the commission, on the dividing line between Ulster and Orange counties, running thence northerly through the eastern portion of Ulster county to the city of Kingston, running thence northerly from the city of Kingston to a point to be determined by the commission, on the dividing line between Greene and Ulster counties running thence northerly through the eastern portion of Greene county to points at or near Catskill, Athens and Coxsackie, to a point to be determined by the commission, on the dividing line between Albany and Greene counties, running thence northerly to the city of Albany.

Route 4. Commencing at a point to be determined by the commission on route number three, running thence through Orange county by the way of Middletown to a point to be determined by the commission, on the dividing line between Sullivan and Orange counties, running thence westerly and northerly through Sullivan county by the way of Monticello to a point to be determined by the commission, on the dividing line between Delaware and Sullivan counties, thence to Deposit, on the dividing line between Broome and Delaware counties, running thence westerly by the way of Windsor to the city of Binghamton, running thence westerly from the city of Binghamton by the way of Lestershire and Endicott, to a point to be determined by the commission, on the dividing line between Tioga and Broome counties, running thence westerly through the southern portion of Tioga county, to a point to be determined by the commission, on the dividing line between Chemung and Tioga counties, running thence westerly and northwesterly through the southern portion of Chemung county, to the city of Elmira, running thence northerly from the city of Elmira to a point at or near Horseheads, running thence westerly to a point to be determined by the commission on the dividing line between Steuben and Chemung counties, running thence westerly and northwesterly by the way of Corning, Addison, and Canisteo, to the city of Hornell, running thence northwesterly and southwesterly from the city of Hornell to a point at or near Almond on the dividing line between Allegany and Steuben counties, run-

ning thence southwesterly to Wellsville, running thence northwesterly and westerly by the way of Belmont, Belvidere and Friendship and Cuba, to a point to be determined by the commission on the dividing line between Cattaraugus and Allegany counties, running thence southwesterly to the city of Olean, running thence westerly and northwesterly from the city of Olean by the way of Salamanca, to a point to be determined by the commission, on the dividing line between Chautauqua and Cattaraugus counties, running thence westerly to the city of Jamestown, thence northwesterly by the way of Mayville, to Westfield.

Route 5. Commencing at the city of Kingston, running thence to a point on the boulevard to be erected by the city of New York near the present village of West Hurley, thence northerly and westerly by the way of Woodstock, Bearsville and Pine Hill, to a point to be determined by the commission, on the dividing line between Delaware and Ulster counties, running thence westerly to Margaretville, running thence northerly by the way of Roxbury to Grand Gorge, running thence northwesterly to a point to be determined by the commission, on the dividing line between Schoharie and Delaware counties, running thence northwesterly and westerly to a point to be determined by the commission, on the dividing line between Delaware and Schoharie counties, running thence northwesterly and westerly by the way of Harpersfield, North Kortright and Davenport, to a point to be determined by the commission, on the dividing line between Otsego and Delaware counties, running thence to Oneonta, Otsego county, running thence northeasterly along route number seven to Colliers; running thence northerly in Otsego county by the way of Coopers-town and Richfield Springs to a point to be determined by the commission, on the dividing line between Herkimer and Otsego counties; running thence northerly to Mohawk connecting with route number six.

Amended by L. 1910, ch. 573.

Route 6. Commencing at a point to be determined by the commission at the city of Albany, running thence northwesterly to a point to be determined by the commission, on the dividing line between Schenectady and Albany counties, running thence northwesterly to the city of Schenectady, running thence northwesterly from the city of Schenectady to a point to be determined by the commission, on the dividing line between Montgomery and Schenectady counties, running thence westerly and north-

westerly through Montgomery county by the way of Fonda and St. Johnsville, to a point at or near East Creek, on the dividing line between Herkimer and Montgomery counties, running thence westerly and northwesterly by the way of Little Falls and Herkimer, from Herkimer westerly by the way of Mohawk, Ilion and Frankfort to a point to be determined by the commission, on the dividing line between Herkimer and Oneida counties, and thence to the city of Utica, running thence westerly from the city of Utica to Oneida, on the dividing line between Madison and Oneida counties, running thence westerly by the way of Chittenango, to a point to be determined by the commission on the dividing line between Onondaga and Madison counties, running thence westerly by way of Fayetteville, to the city of Syracuse, running thence from the city of Syracuse by the way of Camillus and Elbridge, to a point to be determined by the commission, on the dividing line between Cayuga and Onondaga counties, running thence southwesterly to the city of Auburn, running thence from the city of Auburn to a point to be determined by the commission on the dividing line between Seneca and Cayuga counties, running thence westerly to Seneca Falls, thence southerly through the village of Seneca Falls to the south side of Seneca lake outlet, thence westerly on the south side of Seneca lake outlet to a point at the foot of Seneca lake, running thence westerly to a point to be determined by the commission on the dividing line between Ontario and Seneca counties, running thence westerly to Geneva, running thence westerly from Geneva to Canandaigua, running thence westerly to a point to be determined by the commission, on the dividing line between Livingston and Ontario counties, running thence westerly by the way of Avon and Caledonia, to a point to be determined by the commission, on the dividing line between Genesee and Livingston counties, running thence westerly by way of Batavia, to a point to be determined by the commission, on the dividing line between Erie and Genesee counties, running thence westerly to the city of Buffalo, Erie county.

Amended by L. 1910, ch. 573.

Route 7. Commencing at a point to be determined by the commission on the dividing line between the town of Binghamton in Broome county and Pennsylvania, running thence northerly to the city of Binghamton; running thence northerly and northeasterly from the city of Binghamton on the

east side of the Chenango river, by the way of Port Crane, Sanitaria Springs and Harpursville, to Nineveh, on the dividing line between Chenango and Broome counties, running thence northeasterly along the Susquehanna valley, to a point at or near Sidney, on the dividing line between Chenango and Delaware counties, running thence northeasterly by the way of Sidney to a point to be determined by the commission, on the dividing line between Otsego and Delaware counties, running thence northeasterly along the Susquehanna valley to Oneonta, running thence northeasterly from Oneonta by the way of Maryland and Worcester, to a point to be determined by the commission, on the dividing line between Schoharie and Otsego counties, running thence easterly by the way of Cobleskill to a point to be determined by the commission, on the dividing line between Albany and Schoharie counties at or near West Berne, running thence easterly to the city of Albany.

Route 8. Commencing at the city of Binghamton, running thence northerly on the west side of the Chenango river to Chenango Forks, on the dividing line between Chenango and Broome counties, running thence along the west bank of the Chenango river to North Norwich, running thence northerly by the way of Sherburne to Earlville, on the dividing line between Madison and Chenango counties, running thence northerly by the way of Hamilton and Bouckville, to a point at or near Oriskany Falls, on the dividing line between Oneida and Madison counties, running thence northeasterly by the way of Deansboro to a point to be determined by the commission connecting with route number six.

Route 9. Commencing at a point to be determined by the commission, at or near Horseheads, Chemung county, New York, on route number four, running thence northerly and northeasterly by the way of Horseheads, Breesport and Erin to a point to be determined by the commission on the dividing line between Tioga and Chemung counties, running thence easterly and northeasterly by the way of North Spencer to a point to be determined by the commission on the dividing line between Tompkins and Tioga counties, running thence northerly to the city of Ithaca, running thence northeasterly by the way of a point to be determined by the commission at or near Dryden to a point to be determined by the commission on the dividing line between Cortland and Tompkins counties, running thence northeasterly to Cortland, thence northeasterly by the way of Truxton to a point to be de-

terminated by the commission on the dividing line between Madison and Cortland counties at or near De Ruyter, thence northerly to Cazenovia, thence easterly by the way of Morrisville to a point at or near Bouckville on route number eight.

Route 10. Beginning at the city of Syracuse, running thence southerly to a point to be determined by the commission on the dividing line between Cortland and Onondaga counties, running thence southerly by the way of Homer to Cortland, thence southeasterly by the way of McGrawville, Solon and Willet to a point to be determined by the commission on the dividing line between Chenango and Cortland counties, thence southeasterly by the way of Smithville Flats to Greene, thence easterly by the way of Coventry to Coventryville, thence southeasterly to Afton, connecting with route number seven.

Route 11. Commencing at the city of Ithaca, running thence northerly to a point to be determined by the commission, on the dividing line between Cayuga and Tompkins counties, running thence northerly to the city of Auburn.

Route 12. Commencing at a point at or near Horseheads, at a point to be determined by the commission, running thence northerly to a point to be determined by the commission, on the dividing line between Schuyler and Chemung counties, running thence northerly by the way of Watkins, to a point to be determined by the commission, on the dividing line between Yates and Schuyler counties, running thence northwesterly by the way of Dundee, to the village of Penn Yan, running thence northerly to a point on the dividing line between Ontario and Yates counties, running thence northerly to the city of Geneva, running thence northerly from the city of Geneva, to a point to be determined by the commission, on the dividing line between Wayne and Ontario counties, running thence northerly to Lyons, connecting with route number twenty.

Route 13. Commencing at Bath, Steuben county, running thence northeasterly by the way of Hammondsport to a point to be determined by the commission on the dividing line between Schuyler and Steuben counties, thence northeasterly to a point to be determined by the commission on the dividing line between Yates and Schuyler counties, thence northeasterly to Dundee on route number twelve.

Route 14. Commencing at Corning, Steuben county, running thence northwesterly by the way of Bath, Avoca to Cohocton,

running thence northerly from Cohocton, to a point to be determined by the commission on the dividing line between Ontario and Steuben counties, running thence northeasterly to Naples, running thence northerly from Naples to a point to be determined by the commission, connecting with route number six, running thence along route number six, to Black's Corners, and from thence to Holcomb; running thence northwesterly to a point to be determined by the commission on the dividing line between Monroe and Ontario counties, thence northerly to Pittsford, thence westerly, then northerly to the city of Rochester.

Amended by L. 1910, ch. 648.

Route 15. Commencing at Hornell, Steuben county, running thence northwesterly to a point to be determined by the commission, on the dividing line between Allegany and Steuben counties, running thence northerly to a point to be determined by the commission, on the dividing line between Livingston and Allegany counties, running thence northerly by the way of Dansville and Mount Morris, thence northwesterly and northerly by the way of Moscow and York to a point on route number six at or near Caledonia.

Route 16. Commencing at the village of Cuba, Allegany county, running thence northeasterly by the way of Belfast and Caneadea, to a point to be determined by the commission, on the dividing line between Wyoming and Allegany counties, running thence northerly by the way of Pike, Gainesville and Rock Glen to Warsaw, running thence northerly to a point to be determined by the commission, on the dividing line between Genesee and Wyoming counties, running thence northerly to the village of Le Roy, running thence along route number six to Caledonia, running thence northerly to a point to be determined by the commission on the dividing line between Monroe and Livingston counties, running thence northerly by the way of Scottsville to the city of Rochester.

Route 17. Commencing at a point to be determined by the commission on route number four at or near Hinsdale, running thence northerly by the way of Franklinville and Machias to a point to be determined by the commission near the dividing lines of Erie, Wyoming and Cattaraugus counties, running thence northwesterly by the way of East Aurora to the city of Buffalo.

Route 18. Commencing at a point to be determined by the commission, on the dividing line between Ripley, Chautauqua

county, and the state of Pennsylvania, running thence northeasterly by the way of Westfield, Brocton, Fredonia, along the old Buffalo and Erie road, to a point to be determined by the commission, on the dividing line between Erie and Chautauqua counties, running thence northeasterly and northerly to the city of Buffalo, running thence northerly from the city of Buffalo to the city of Tonawanda, running thence northwesterly and westerly from North Tonawanda to the city of Niagara Falls, running thence northerly from Niagara Falls by the way of Lewiston to a point near the mouth of the Niagara river, Niagara county.

Route 19. Commencing at the city of Buffalo, running thence easterly to Marilla, thence southerly to Wales Center, thence easterly to a point to be determined by the commission on the dividing line between Wyoming and Erie counties, running thence easterly to Varysburg, thence northerly by the way of Attica to a point to be determined by the commission on the dividing line between Genesee and Wyoming counties, running thence northeasterly to Batavia, Genesee county, connecting with route number six.

Route 20. Commencing at a point on route number six, at or near Elbridge, in Onondaga county, running thence northerly to Jordan and westerly to a point to be determined by the commission, on the dividing line between Cayuga and Onondaga counties, running thence northwesterly and southwesterly by the way of Port Byron and Montezuma, to a point to be determined by the commission, at or near the dividing lines between Wayne, Seneca and Cayuga counties, running thence northwesterly and westerly from Savannah, Clyde, Lyons, Palmyra, and Macedon to a point to be determined by the commission, on the dividing line between Monroe and Wayne counties, running thence northwesterly to the city of Rochester, Monroe county.

Route 21. Commencing at a point on the Hudson river at or near Albany and running thence easterly to a point at or near Sand Lake, running thence southerly to a point at or near Nassau, in Rensselaer county, running thence southeasterly to a point to be determined by the commission, on the dividing line between Columbia and Rensselaer counties, to a point to be determined by the commission, on the dividing line between Columbia county and the state of Massachusetts.

Route 22. Commencing at a point in Rensselaer county at or near the city of Troy, running thence northeasterly by the way of Raymertown, to Potter Hill, running thence northerly

through Hoosick Falls, to a point at or near Eagle Bridge, on the dividing line between Washington and Rensselaer counties, running thence northerly by the way of Cambridge, Salem and Granville by the way of Whitehall and the shore road along Lake Champlain to Putnam; and commencing at a point on route twenty-five at Riparius in Warren county, and running thence to a point to be determined by the commission on the dividing line between Essex and Warren counties, and running thence northerly by way of Schroon Lake village to Elizabethtown, running thence westerly to Keene, thence northerly to Ausable Forks and a point on the dividing line between Clinton and Essex counties, thence northeasterly to a point at or near Ausable Chasm, thence northerly by the way of Plattsburgh and Chazy to Rouses Point.

Route 23. Commencing on the Cherry Valley turnpike at the westerly line of the village of West Winfield near the intersection of the three counties, Otsego, Oneida and Herkimer, running thence westerly to the village of Bridgewater, running thence northerly to the city of Utica, running thence northeasterly through the town of Deerfield to a point to be determined by the commission on the dividing line between Herkimer and Oneida counties, at or near Poland, there intersecting route number twenty-six, running thence northeasterly through Cold Brook, Wilmurt and Nobleboro to the Hamilton county line there joining the county highway of Hamilton county which leads through Morehouseville to Lake Pleasant.

Amended by L. 1910, ch. 573.

Route 24. Commencing at a point on route number six at Fonda, Montgomery county, running thence northerly to a point to be determined by the commission on the dividing line between Fulton and Montgomery counties, running thence northerly by the way of Johnstown and Gloversville to Northville, running thence northerly to a point to be determined by the commission on the dividing line between the counties of Hamilton and Fulton, running thence northerly to Lake Pleasant.

Route 25. Commencing at Whitesboro near Utica on route number twenty-eight in Oneida county, running thence northerly, by the way of Marcy, Holland Patent, Remsen, Alder Creek and White Lake Corners, to a point to be determined by the commission, at or near the dividing lines between Herkimer, Lewis and Oneida counties, running thence northeasterly by the way of Fulton Chain, and on or near the highways laid out, to a point

to be determined by the commission, on the dividing line between Hamilton and Herkimer counties, running thence easterly by the way of Raquette Lake, and on the south shore of Raquette Lake, running thence northeasterly to Blue Mountain Lake, running thence northerly to Long Lake, running thence easterly to a point to be determined by the commission, on the dividing line between Essex and Hamilton counties, running thence easterly to Newcomb, running thence southeasterly by the way of Minerva, to a point to be determined by the commission, on the dividing line between Warren and Essex counties, running thence by the way of North Creek, Riparius and Warrensburg to Lake George, running thence southerly to a point to be determined by the commission on the dividing line between Saratoga and Warren counties at or near Glens Falls, running thence southerly by the way of Saratoga Springs to Ballston Spa, running thence southeasterly to a point to be determined by the commission on the dividing line between Albany and Saratoga counties, running thence southerly to a point to be determined by the commission at or near the city of Albany.

Route 26. Commencing in the village of Mohawk near the intersection of routes five and six, thence running easterly through Jacksonburg to Little Falls, thence running northwesterly through Eatonsville, Middleville, Newport and Poland, across the corner of Oneida county, thence in Herkimer county to a point on the dividing line between Oneida and Herkimer counties near Gravesville, thence by the way of Trenton Falls to join route number twenty-five at or near Trenton.

Amended by L. 1910, ch. 573.

Route 27. Commencing at a point on route number twenty-five, to be determined by the commission near Alder Creek, running thence northwesterly by the way of Booneville,* to a point on the dividing line between Lewis and Oneida counties, running thence northerly by the way of Lowville, to a point at or near Carthage, on the dividing line between Jefferson and Lewis counties, running thence northwesterly and westerly to the city of Watertown, running thence northwesterly from the city of Watertown to Clayton, thence northeasterly to Alexandria Bay, Jefferson county.

Route 28. Commencing at the city of Utica, Oneida county, running thence northwesterly to Rome, running thence northwesterly from Rome, by the way of Camden, to a point to be determined by the commission, on the dividing line between

* So in original.

Oswego and Oneida counties, running thence northwesterly by the way of Parish to Union Square, Oswego county.

Route 29. Commencing at Rome, running thence southwesterly to Oneida, being a point on the dividing line between Madison and Oneida counties.

Route 30. Commencing at Rouses Point, in Clinton county, running thence westerly through the northern part of Clinton county, to a point to be determined by the commission, on the dividing line between Franklin and Clinton counties, running thence westerly by the way of Burke, Malone and Moira, to a point to be determined by the commission, on the dividing line between Saint Lawrence and Franklin counties, running thence westerly to Lawrenceville, running thence southerly to a point at or near Nicholville, running thence westerly and southwesterly by the way of Potsdam, Canton and Gouverneur, to a point to be determined by the commission, on the dividing line between Jefferson and Saint Lawrence counties, running thence southwesterly by the way of Philadelphia to Watertown, running thence southerly from Watertown, by the way of Adams and Pierrepont Manor, to a point to be determined by the commission, on the dividing line between Oswego and Jefferson counties, running thence southerly and southwesterly and westerly by the way of Pulaski and Union Square to Oswego, running thence southerly from Oswego by way of Hannibal to a point to be determined by the commission, on the dividing line between Cayuga and Oswego counties, running thence southwesterly through the northern part of Cayuga county to a point to be determined by the commission, on the dividing line between Wayne and Cayuga counties, running thence southwesterly and westerly by way of Red Creek, Wolcott, Alton, Sodus, Williamson and Ontario to a point to be determined by the commission on the dividing line between Monroe and Wayne counties, running thence southwesterly to the city of Rochester, running thence westerly from the city of Rochester by the way of Spencerport, to a point to be determined by the commission, on the dividing line between Orleans and Monroe counties, running thence westerly to points at or near Albion and Medina, to a point to be determined by the commission, on the dividing line between Niagara and Orleans counties, running thence westerly to a point to be determined by the commission, connecting with route number eighteen.

Amended by L. 1910, ch. 648.

30-a. Commencing at the point mentioned in the description of route twenty-seven at or near Carthage, on the dividing line between Jefferson and Lewis counties, running thence northerly and northwesterly to Antwerp in Jefferson county, terminating at and intersecting route thirty at or near Antwerp aforesaid.

Added by L. 1910, ch. 650.

Route 31. Commencing at Malone, Franklin county, running thence southerly by the way of a point at or near Duane and Meacham Lake to Saranac Junction.

Route 32. Commencing at Lawrenceville in St. Lawrence county, running thence northerly to North Lawrence, running thence westerly to Winthrop, running thence northerly to Massena, running thence southwesterly by the way of Waddington, thence by the way of the Sucker Brook and Van Rensselaer roads to Ogdensburg.

Amended by L. 1910, ch. 648.

Route 33. Commencing at Syracuse, running thence northerly to a point to be determined by the commission, on the dividing line between Oswego and Onondaga counties, running thence northerly by the way of Central Square to a point at or near Colosse on route number twenty-eight.

Route 34. Commencing at the city of Oswego on the east side of the river, running thence by the way of Fulton through Phoenix to a point to be determined by the commission on the dividing line between Onondaga and Oswego counties, running thence by the way of Liverpool to Syracuse.

Route 35. Commencing at a point to be determined by the commission on the dividing line between Nassau and Queens counties, running thence easterly through the northern portion of Nassau county to a point to be determined by the commission on the dividing line between Suffolk and Nassau counties, running thence easterly by the way of Jericho turnpike to Smithtown branch, Saint James, Port Jefferson and Wading River to Riverhead, running thence southerly to West Hampton, running thence westerly by the way of south country road to Patchogue, Sayville, Islip, Bay Shore and Babylon to Amityville, running thence westerly to a point to be determined by the commission on the dividing line between Nassau and Suffolk counties, running thence westerly through the southern portion of Nassau county to a point to be determined by the commission on the dividing line between Queens and Nassau counties.

Route 36. Commencing at Owego in Tioga county, running thence northerly to a point to be determined by the commission on the dividing line between Tompkins and Tioga counties, running thence northwesterly to the city of Ithaca, running thence northwesterly from the city of Ithaca to Trumansburg, at or near the dividing line between Seneca and Tompkins counties, running thence northwesterly and northerly by the way of Ovid to a point to be determined by the commission on route number six.

Route 37. Commencing at a point on route twenty-six at Dolgeville, running thence easterly along the old state road by way of Oppenheim, Lasellville, Garoga and Rockwood to the city of Johnstown in Fulton county, running thence easterly by way of West Perth to Perth Center, thence in a northerly direction to Broadalbin by way of Vail Mills, thence in a southeasterly direction by way of Honeywells Corners and Jackson Vlaie farm to Van Vrankens Corners, thence easterly to a point to be determined by the commission on the dividing line between Saratoga and Fulton counties, running thence easterly by the way of Galway to Saratoga Springs connecting with route number twenty-five.

Amended by L. 1910, ch. 648.

Route 38. Commencing at such point in or near the village of Schoharie, in the county of Schoharie, in the line of route number seven as the commission may determine; running thence southerly through the towns of Schoharie, Middleburg, Fulton, Blenheim, Gilboa and Conesville to, and intersecting route number five, at a point to be determined by the commission.

Added by L. 1909, ch. 504.

Route 39. Commencing at a point on route twenty-five in the county of Saratoga at or near Ballston lake; thence southwestwardly to a point to be determined by the commission on the dividing line between the counties of Saratoga and Schenectady; thence southwestwardly to a point at or near the city of Schenectady connecting with route six.

Added by L. 1910, ch. 649.

§ 121. Construction or improvement of state highways.—The state highways shall be constructed or improved by the commission as provided in this article. The mileage to be constructed from the amount available from the sale of bonds issued as provided by chapter four hundred and sixty-nine of the laws of nineteen hundred and six, as amended by chapter seven hundred and

eighteen of the laws of nineteen hundred and seven, and appropriated for the construction or improvement of state highways, shall be equitably apportioned by the commission among the several counties without discrimination; but not more than one-half of the amount appropriated each year from the proceeds of the sale of such bonds shall be expended under this article for the construction and improvement of state highways. In making the apportionment between counties the commission shall take into consideration the mileage which may be constructed from the amount to be expended under this article in each county for the construction or improvement of county highways, together with the mileage of state and county highways theretofore constructed out of moneys derived from the sale of bonds issued as above provided.

Report of joint legislative committee on highways, 1908, contains the following statement in respect to this section: "Article 7, sec. 12 of the Constitution, which authorizes the creation of a debt not exceeding fifty million dollars for the improvement of highways provides that such highways shall be determined under general laws, which shall also provide for the equitable apportionment thereof among the counties. It is assumed in this section that the Commission in apportioning county highways among the counties will take into consideration those highways which are declared by this chapter to be State highways to be improved at the sole expense of the State. The evident purpose of the Constitution was to provide for an equitable apportionment of the highways among the counties whether they be constructed or improved by the State, or jointly by the State, county and town. An equitable apportionment of the highways to be constructed from the proceeds of the bonds issued under the constitutional provision must necessarily include both State and county highways. The Commission in exercising the authority conferred upon it by this section will be governed both by the statute and the Constitution."

By an opinion of the Attorney-General under date of August 7, 1909, it was held that a county cannot acquire title for new rights of way for State or county highways until an amendment to the Constitution allowing such title to be acquired by the county is made. The opinion says in part, "I do not think the passage of section 120 of the Highway Law changes the situation as to State roads. The routes therein laid out can be followed, and the roads improved along any and all of them except where there are new routes, or deviate from old established ways in the forest preserve, but it is too well settled to require the citation of any authorities, that the Legislature cannot overrule an expressed provision of the Constitution, and while it is more than likely that it was not originally intended to prohibit the laying out and working of highways through the forest preserve, still the language will not bear any other interpretation, and I am, therefore, of the opinion that neither new State or county highways can be cut or worked through any part of the forest preserve until some change has been made in the Constitution."

§ 122. **Construction or improvement of county highways.**— The county highways to be constructed or improved under this article at the joint expense of the state, county and town, shall be those highways in each county determined by the commission to be of sufficient public importance to come within the purposes of this chapter, so as to constitute a part of a properly developed system of improved market roads within the county, taking into account the use, location and value of such highways for the purposes of common traffic and travel. Such county highways shall be equitably apportioned by the commission among the several counties without discrimination. In making such apportionment the commission shall take into consideration the total mileage of state highways which shall be hereafter constructed or improved in each county, and also the highways therein which have been constructed or improved prior to the taking effect of this article from funds made available by the issue and sale of bonds as provided in section twelve of article seven of the constitution, so that there shall be an equitable distribution as between the counties of all highways built in whole or in part from such funds.

§ 123. **Preliminary resolution of board of supervisors.**—The board of supervisors of any county may pass a resolution stating that public interest demands the improvement of a highway or section thereof within the county, and requesting that it be constructed or improved as provided in this article. Such resolution shall contain a description of such highway or section thereof. Such highway or section thereof shall not include a portion of a highway within a city, except that portion of the cities of Rome and Oneida lying outside of the respective corporation tax districts of said cities, nor any portion of a highway within an incorporated village, unless it be necessary to complete the connection of such highway with a highway already improved or to be improved under this article. The clerk of the board of supervisors shall, within ten days after the passage of such a resolution, transmit a certified copy thereof to the commission.

Amended by L. 1909, ch. 487.

§ 124. **Examination of county highway; approval or disapproval by commission.**— The commission after receipt of such resolution, and at such times as it deems proper, shall examine the highway or section thereof sought to be constructed or improved, and shall determine whether it is of the character specified in section one hundred and twenty-two, and whether the construction or

improvement thereof will provide for an equitable apportionment of the highways among the several counties as provided in such section. After such examination the commission shall certify its approval or disapproval of such resolution to the board of supervisors adopting it; if it disapprove thereof it shall certify its reasons therefor.

§ 125. **Maps, plans, specifications and estimates.**—Whenever the commission shall have determined upon the construction or improvement of a state highway, or section thereof, or shall have approved a resolution adopted by a board of supervisors in any county requesting the construction or improvement of a county highway, or a section thereof, the commission shall direct the division engineer of the division wherein such highway or section thereof is situated to make surveys, and prepare suitable preliminary maps, plans and specifications. Such division engineer shall, subject to the direction and control of the commission, have the following powers and duties in respect to such highways:

1. He shall cause the highway or section thereof designated by the commission, or described in such resolution, to be mapped both in outline and profile.

2. He may provide for a deviation from the line of a highway already existing, if thereby a shorter or more direct highway, or a lessened gradient may be obtained without decreasing the usefulness of the highway.

3. He may provide for the widening of an existing highway.

4. He shall prepare preliminary plans and specifications for the construction or improvement of such highway or section thereof providing for a telford, macadam or gravel roadway, or other suitable construction, taking into consideration climate, soil and materials to be had in the vicinity thereof, and the extent and nature of the traffic likely to be upon such highway, specifying in his judgment the kind of highway a wise economy demands.

5. He shall provide in such plans and specifications for necessary culverts, drains, ditches, waterways, embankments, guard-rails and retaining walls.

6. He may provide therein for the removal or planting of trees, within the boundaries of the highway, when necessary for the preservation thereof.

7. He shall provide therein for the erection of suitable guide boards.

8. He may provide for such other work as may be required to complete the construction or improvement in a proper manner.

9. He shall cause an estimate to be made of the cost of the construction of such highway or section thereof in accordance with such plans and specifications. In making such estimate he shall ascertain with all practical accuracy the quantity of embankment, excavation and masonry, the quantity of all materials to be used and all items of work to be placed under contract and specify the estimated cost thereof.

§ 126. **Submission of maps, plans and specifications to district or county superintendent.**—The commission shall cause the preliminary maps, plans and specifications for either a state or county highway, or a copy thereof, to be presented to the district or county superintendent of the district or county in which such highway or section thereof is situated, who shall personally examine the highway or section thereof and the proposed maps, plans and specifications, and shall recommend any modification thereof which in his judgment seems to be necessary and shall report thereon within sixty days to the commission. He shall also take such other action in respect thereto as may be required by law or by the commission.

§ 127. **Action of commission in respect to maps, plans, specifications and estimates.**—Upon receiving the report of the district or county superintendent, as provided in the preceding section, the commission shall finally adopt the maps, plans, specifications and estimates which are to be used for the construction or improvement of the state or county highway to be constructed or improved. If such highway be a state highway the commission shall thereupon proceed to advertise and award contracts for the construction or improvement thereof as provided in section one hundred and thirty. If such highway be a county highway the commission shall transmit such plans, specifications and estimates as adopted by them to the board of supervisors of the county from which the resolution proceeded, together with their certificate approving the construction or improvement of the highway or section thereof designated in such resolution.

§ 128. **Final resolution of board of supervisors.**—The board of supervisors, after the receipt of plans, specifications and estimate of a county highway or section thereof, and after such modification thereof as may be made by a majority vote of such board, with the consent of the commission, may approve such plans, specifications and estimate, and adopt a resolution requesting that such county highway or section thereof be constructed or im-

proved under the provisions of this article, in accordance therewith. In the case of a county highway or a section thereof which divides two or more counties, such resolution must be separately adopted by the board of supervisors of each county within which a portion of such highway lies. The form of such resolution shall be prescribed by the commission and shall contain the matter required by this article to be inserted therein. Immediately upon the adoption of such resolution the clerk of the board of supervisors shall transmit a certified copy thereof to the commission. When a board of supervisors has once adopted a resolution providing for the construction or improvement of a highway or a section thereof in accordance with such plans and specifications, no resolution thereafter adopted by such board shall rescind or annul such prior resolution either directly or indirectly, excepting under the advice and with the consent of the commission. Notwithstanding the adoption of such a resolution, the commission may modify such plans, specifications and estimate, prior to the award of a contract therefor and, upon the approval thereof by the board of supervisors as above provided, such highway or section thereof shall be constructed or improved in accordance with such plans, specifications and estimate.

Amended by L. 1909, ch. 240, § 45.

§ 129. **Order of construction of county highways.**— Upon the receipt of such resolution the commission shall proceed with the improvement or construction of such county highway as provided in this article. The construction and improvement of such county highways and sections thereof shall be taken up and carried forward within a county in the consecutive order as determined by the date of the receipt by the commission in each case of the certified copy of the final resolution, so far as is practicable in the opinion of the commission. No such highway shall be placed upon the list of highways to be constructed or improved nor receive a consecutive number on such list, unless such resolution shall appropriate and make immediately available for such construction or improvement the counties' and towns' share of the cost thereof.

Amended by L. 1910, ch. 247.

§ 130. **Contracts for construction or improvement of highways.**— State and county highways shall be constructed or improved by contract. Upon the completion and final adoption or approval, as provided by law, of the plans, specifications and estimate for

the construction or improvement of a state or county highway, contracts therefor shall be executed as provided herein.

1. *Advertising for proposals.*—The commission shall advertise for proposals for the construction or improvement of such highways or sections thereof according to the plans, specifications and estimate prepared therefor. The advertisement shall be limited to a brief description of the work proposed to be done, with an announcement stating where the maps, plans, specifications and estimate may be seen, the terms and conditions under which proposals will be received, the time and place where the same will be opened, and such other matters as the commission may deem advisable to include therein. Such advertisement shall be published at least once in each week for two successive weeks in a newspaper published at the county seat of the county in which such highway or section thereof is to be constructed or improved, and in such other newspapers as the commission may designate.

2. *Proposals.*—Each proposal shall specify the gross sum for which the work will be performed and shall also include the amount to be charged for each item specified in the estimate. The commission may prescribe and furnish forms for the submission of such proposals and may prescribe the manner of submitting the same which shall not be inconsistent herewith. The proposals when opened shall be subject at all reasonable times to public inspection, and at the time of opening shall be publicly read, and conspicuously posted in such a manner as to indicate the several items of the proposal.

3. *Award of contracts.*—The contract for the construction or improvement of such highway or section thereof shall be awarded to the lowest responsible bidder, except that no contract shall be awarded at a greater sum than the estimate made for the construction or improvement of such highway or section thereof in accordance with such plans and specifications. The lowest bid shall be deemed to be that which specifically states the lowest gross sum for which the entire work will be performed, including all the items specified in the estimate therefor.

4. *Estimates may be amended.*—If no proposal otherwise acceptable is made within the estimate accompanying the plans and specifications, the commission may cause the estimate to be amended. If the highway to be constructed or improved is a county highway the commission shall certify the amended estimate to the board of supervisors and the board shall take action thereon

as in a case where plans, specifications and estimates are originally submitted to a board of supervisors. Upon the amendment of such estimate, and its approval by the board of supervisors in case of a county highway, the commission may proceed anew to obtain proposals and award the contract as provided in this section.

5. *Rejection of proposals.*—The commission may reject any or all proposals and may advertise for new proposals as above provided, if, in their opinion, the best interests of the state will thereby be promoted.

6. *Form of contract.*—The commission shall prescribe the form of contract and may include therein such matters as they may deem advantageous to the state. Such forms shall be uniform so far as may be.

7. *Bond of contractor.*—Each contractor, before entering into a contract for such construction or improvement, shall execute a bond in the form prescribed by the commission, with sufficient sureties, to be approved by the commission, conditioned that he will perform the work in accordance with the terms of the contract, and with the plans and specifications, and that he will commence and complete the work within the time prescribed in the contract. Such bond shall also provide against any direct or indirect damages that shall be suffered or claimed on account of such construction or improvement during the time thereof, and until the highway is accepted.

8. *Payments on contract.*—The contract may provide for partial payments to an amount not exceeding ninety per centum of the value of the work done, which shall be paid in the manner provided by this article when certified to by the commission. Ten per centum of the contract price shall be retained until the entire work has been completed and accepted.

9. *Contingencies.*—All contingencies arising during the prosecution of the work shall be provided for to the satisfaction of the commission and as may be agreed upon in the original or by a supplemental contract executed by the commission; the amount to be expended shall not exceed the original estimate, unless such estimate shall have been duly amended by the commission and, in the case of a county highway, submitted to the board of supervisors for its approval. If a supplemental contract be executed by the commission for the performance of work or furnishing of material not provided for in the original contract, the amount to be charged thereunder for any such work

or material shall not exceed the rate for which similar work or material was agreed to be performed or furnished under the original bid upon which the contract was awarded. Such supplemental contract shall not be binding unless it be approved by the commission in case of a state highway and in case of a county highway, by the chairman of the board of supervisors and the district or county superintendent.

Under an opinion of the Attorney-General under date of May 15, 1909, it was held that supplemental contracts for the construction of any portion of county highways must be submitted to the board of supervisors of the county and that such contracts are not binding unless approved by the chairman of the board.

Under an opinion of the Attorney-General under date of December 21, 1909, it was held that a supplemental contract is not binding except that it be approved in the case of a county highway by the chairman of the board of supervisors and the district or county superintendent. Should such change involve an increased cost beyond that of the original estimate the same must be approved by the board of supervisors after the amendment of the estimate.

Rejection of bids by the State Engineer for construction or improvement of the highways. Rept. of Atty.-Genl. (1908), 271.

The mere announcement by the Highway Commission that a bid will be awarded to a certain person does not make a contract and said person cannot hold the State for damages on account thereof. Rept. of Atty.-Genl., May 10, 1910.

The bond of a contractor should not be released where work upon his contract has been suspended because of weather conditions, although ten per cent. of the contract price has been reserved by the State and the amount of unperformed work will not exceed the ten per cent. reserved. Rept. of Atty.-Genl., Dec. 11, 1909.

§ 131. **Award of contracts to board of supervisors or town board.**—A board of supervisors of a county, or a town board of a town, in which any portion of a county highway is situated, may present proposals and be awarded a contract for the construction or improvement of such highway, as provided in this article, for and on behalf of such county or town. If such contract be awarded to a board of supervisors or a town board such board shall, by resolution, designate some suitable person or persons to carry into effect, on behalf of the town, such contract, and transact all business in respect thereto as may be necessary. A

member of the board of supervisors or town board at the time such contract was awarded or such designation was made, or a person who is a partner of, or a stockholder in the same corporation as that of such member, shall not be so designated. A member of the board of supervisors or town board at the time such designation was made, or a firm, corporation or association of which he is a member or has an interest, shall not be directly or indirectly interested in any such contract nor shall such member, or such firm, corporation or association furnish materials or perform labor or services, either directly or indirectly, under or in connection with the performance of any of the work required in accordance with such contract, nor shall such member, firm or corporation or association, be paid for materials furnished or services rendered in respect to such contract. The clerk of the board of supervisors or the town clerk shall transmit a certified copy of the resolution designating the person or persons to carry into effect such contract to the commission prior to the awarding of a contract to the board of supervisors or town board. The person or persons so designated shall, before the contract is executed, give an undertaking to the county or town, with sureties to be approved by the commission and the board of supervisors or town board, for an amount equal to the amount of the bid presented by the county or town. Such undertaking shall be conditioned on the faithful performance of their duties in respect to such contract and for the proper accounting, safe-keeping and lawful disbursement of all moneys that may come into their hands thereunder. Such undertaking shall be filed in the office of the county or town clerk and a copy thereof shall be transmitted to the commission. The person or persons so designated shall thereupon be competent to receive all moneys payable under such contract under the provisions of this article, and they shall account therefor to the county or town. The board of supervisors or town board, after such contract is awarded, shall designate, by resolution, a banking corporation or a trust company wherein the moneys received under such contract shall be deposited. Such bank or trust company shall, upon the request of the board of supervisors or town board, make a statement of the money so deposited. The commission shall, by rules and regulations, prescribe the manner in which the moneys received under such contract shall be expended and the forms of accounts to be kept by the person or persons designated as above provided. Reports may

be required by the commission from time to time from such person or persons.

§ 132. **Suspension of work under contract; completion by commission.**—If the division engineer shall determine that the work upon any contract for the construction or improvement of a state or county highway is not being performed according to the contract or for the best interests of the state, he shall so certify to the commission and the commission may suspend or stop the work under the contract while it is in progress, and shall thereupon complete the work in such manner as will accord with the contract specifications, and be for the best interests of the state, or it may cancel the contract and readvertise and relet as provided in section one hundred and thirty, and any excess in the cost of completing the contract beyond the price for which it was originally awarded shall be charged to any* paid by the contractor failing to perform the work. Every contract for the construction or improvement of a state or county highway shall reserve to the commission the right to suspend or cancel the contract as above provided, and to complete the work thereunder or readvertise and relet as the commission may determine.

§ 133. **Acceptance of state highway when completed.**—Upon the completion of a state highway or section thereof constructed or improved under a contract let as provided in this article, the division engineer together with the county or district superintendent shall inspect the same and if it be completed as provided in the contract, they shall thereupon report to the commission, who shall, if it approve, notify the contractor of that fact and the highway or section thereof so constructed or improved shall be deemed to have been accepted by the state.

§ 134. **Acceptance of county highway.**—Upon the completion of a county highway or section thereof, constructed or improved under a contract let as provided in this article, the commission shall inform the district or county superintendent and the board of supervisors of the county in which such highway or section thereof is located in writing, that it will accept the work on behalf of the state and county within twenty days from the date of such notice, unless protest shall be filed with him* in writing by the district or county superintendent or by the chairman of the board of supervisors. In case a protest is filed the commission shall hear the same and if it is sustained it shall delay the acceptance of

* So in original.

the highway or section thereof until it be properly completed. Upon the proper completion of such highway or section thereof and after filing the notice above given it shall be deemed to have been accepted by the board of supervisors of such county and thereafter it shall be maintained as provided in this chapter.

§ 135. **Entry upon adjacent lands for drainage purposes.**— Lands adjacent to a state or county highway may be entered upon and occupied for the purpose of opening or constructing a drain or ditch so as to properly drain such highway:

1. By a contractor, or any of his agents or employees, when directed by the commission, during the construction or improvement of such highway.

2. By the commission or its duly authorized officers, agents or employees, at any time, for the purpose of making surveys for such drain or ditch.

3. By the commission, or its duly authorized officers, agents or employees, or by a county, district or town superintendent, when directed by the commission, after the completion and acceptance of the highway for the purpose of opening, constructing or maintaining ditches or drains upon such lands, necessary for the proper maintenance of such highway.

By an opinion of the Attorney-General under date of April 9, 1909, it was held that in the majority of cases condemnation proceedings should be instituted previous to entry in case of failure to agree upon damages with the owner. The opinion says in part: "While I am inclined to the opinion from the language above used (section 136) and the heading of this section that the Commission has the power to enter upon such lands before instituting condemnation proceedings, yet the safer course would be, in view of the fact that the language is not entirely clear, to start condemnation proceedings first in case a reasonable agreement cannot be made with the owner of the land. These proceedings, under the code, allow an entry to be made, under certain conditions, very shortly after the commencement of the proceedings and I therefore advise that unless an emergency exists which would endanger the safety of the highway, this course is the safer one to pursue."

§ 136. **Damages for entry.**— The commission may agree with the owner of lands entered upon and occupied as provided in the preceding section for the payment of damages caused by such entry, or if unable to so agree the right to enter and occupy such lands may be acquired and the damages therefor shall be ascertained as provided in the condemnation law. Such damages shall, in the case of a state highway, be paid out of moneys available for the construction or improvement of such highway, and in

the case of a county highway shall be a county charge and paid in the same manner as other county charges.

§ 137. State and county highways in villages and cities of the third class.—A State highway may be constructed through a city of the third class or a village and a county highway may be constructed through a village in the same manner as outside thereof, unless the street through which it runs has, in the opinion of the commission, been so improved or paved as to form a continuous and improved highway of sufficient permanence as not to warrant its reconstruction, in which case such highway shall be constructed or improved to the place where such paved or improved street begins. If it is desired to construct or improve any portion of a state or county highway within such village at a width greater than that provided for in the plans and specifications therefor, or if a modification of the plans and specifications is desired by which the cost thereof is increased, the board of trustees of such village shall petition the commission by resolution, to so modify such plans and specifications as to provide for such construction. The commission shall thereupon cause the plans, specifications and estimate for such highway to be modified so as to provide for such additional construction, and shall provide therefor in the contract. Upon the completion of such state or county highway within the village in accordance with such modified plans and specifications the commission shall notify the board of trustees as provided in the case of a county highway. Such board may file a written protest against the acceptance of such work with the commission who shall examine in respect thereto, and if it is sustained the commission shall delay the acceptance of the highway within the village until it be properly completed. Upon the proper completion thereof and the notification as above provided, the commission shall certify to the board of trustees the cost of such additional construction, and such board shall pay the same out of moneys raised by tax or from the issue and sale of bonds as provided in the village law. The provisions of the general village law, special village charters and other general or special laws relative to the pavement or improvement of streets and the assessment and payment of the cost thereof shall apply, so far as may be, to such additional construction and the assessment and payment of the cost thereof.

Amended by L. 1910, ch. 233.

§ 138. Connecting highways in villages.— The board of trustees of a village may, by resolution, petition the commission for the construction or improvement of a highway to connect streets or highways within the village, which have been paved or improved, with county highways which have been heretofore built under the provisions of chapter one hundred and fifteen of the laws of eighteen hundred and ninety-eight, and the acts amendatory thereof. If in the judgment of the commission public convenience requires the construction or improvement of such connecting highway, the commission shall cause plans, specifications and estimates to be prepared, and shall cause the same to be transmitted to the board of supervisors of the county wherein such highway is situated, with a written statement of their reason for providing for such construction or improvement. A copy of such statement shall be filed in the office of the county clerk of such county. The board of supervisors shall thereupon adopt a resolution providing for such construction or improvement as provided in this article. The payment of the cost of such construction or improvement shall be provided for in such resolution as in other cases, and such payment shall be made in the same manner. A certified copy of such resolution shall be filed in the office of the commission. The construction or improvement of such connecting highway shall then be taken up in the order and manner provided in this article for the construction or improvement of county highways. If it is desired to construct or improve any portion of such a connecting highway at a width greater than that provided for in the plans and specifications therefor, or if a modification of such plans and specifications is desired by which the cost thereof will be increased, the board of trustees of the village shall proceed as in the preceding section to secure such a modification of the plans and specifications as will provide for such desired construction. The provisions of the preceding section shall apply in like manner to the connecting highway to be constructed or improved as provided in this section.

§ 139. Resolution to provide for raising money.— The resolution of the board of supervisors providing for the construction or improvement of a county highway or section thereof shall appropriate and make immediately available to the requisition of the commission an amount sufficient to pay the share of the cost of such construction or improvement which is to be borne by the county and town or towns within which such highway or section thereof is located.

Amended by L. 1910, ch. 247.

§ 140. Modifying method of payment.— If a resolution has been heretofore adopted by a board of supervisors requesting the state to pay the entire cost of the construction or improvement of a county highway in the first instance and that the state charge the county and town or towns annually with their share of the interest and sinking fund, as provided in chapter four hundred and sixty-nine of the laws of nineteen hundred and six, and the acts amendatory thereof, such board of supervisors may adopt a resolution rescinding such prior resolution and appropriating and making immediately available an amount sufficient to pay the share of the cost of the construction or improvement of such highway. The clerk of the board of supervisors shall transmit certified copies of such resolution to the commission and the state comptroller. If such prior resolution shall not be so rescinded it shall have the same force and effect which it had prior to the amendment of this section. The adoption of a resolution modifying the method of payment of the share of the county and town or towns shall not affect or change the date of the filing of the original resolution providing for the construction or improvement of such highway nor alter in any way the order of construction determined by the date of the filing of the original resolution.

Amended by L. 1910, ch. 247.

§ 141. Division of cost of county highways; payments by county treasurer.—Whenever the construction or improvement of a county highway or section thereof under a contract shall be completed and final payment therefor shall have been made the commission shall prepare a statement of the cost of such construction or improvement, including engineering expenses, inspection and all charges and expenses properly chargeable thereto, showing in detail the date of each payment, and the purpose and amount of such payment. Such payments shall be grouped as far as practicable by dates and the total thus obtained shall be deemed the cost of such construction or improvement, and a certified copy of said statement shall be filed by the commission in the office of the comptroller. If a county highway or section thereof so constructed or improved shall be situate in two or more towns or in two or more counties, the commission shall apportion such expense to such towns and counties according to the cost of such construction or improvement in each of such towns or counties. Such statement when audited and approved by the comptroller shall be filed in his office and shall be final, and a duplicate thereof shall be

filed with the county treasurer of each county wherein the highway or section thereof has been improved. If the board of supervisors of any county shall have theretofore provided funds to pay two per centum of the cost of such county highway as thus determined, for each one thousand dollars of assessed valuation of real and personal property liable to taxation in said county for each mile of public highway within such county to be ascertained and determined by dividing the total assessed valuation of taxable property in said county as equalized for state purposes by the total mileage of highways in said county, exclusive of the streets and highways within any incorporated city or village in said county, and if the board of supervisors of any county shall have theretofore provided funds to pay, on behalf of any town, one per centum of the cost of such improved highway as thus determined, for each one thousand dollars of assessed valuation of real or personal property liable to taxation in said town for each mile of public highway within said town to be ascertained and determined by adding to or deducting from the total assessed value of taxable property in said town as equalized for county purposes, the percentage of value, if any, added or deducted by the state board of equalization to equalize between counties for state purposes, and dividing the sum thus obtained by the total mileage of public highways in said town, exclusive of the streets and highways within any incorporated city or village in said town, but not exceeding thirty-five per centum of the cost for the county and fifteen per centum of the cost for the town or towns, as shown by such statement, it shall be the duty of the county treasurer to pay the amount thereof upon the requisition of the commission and thereafter the county and town shall be deemed to be fully discharged of its obligation to the state on account of the construction or improvement of such county highway, except the obligation to pay their proportionate amount of the state tax for the state's share of the cost of construction. At least ten days notice shall be given by the commission to the county treasurer prior to the making of such a requisition. A copy of each contract providing for the construction or improvement of a county highway, and the plans and specifications therefor, together with copies of certificates showing the progress of the work, upon which requisitions are drawn, shall be filed with the county treasurer. The mileage of highways to be used in determining the amounts to be charged to a county or town under this section shall be the

tables of mileage formerly prepared by the state engineer until the tables as provided in this chapter are filed.

§ 142. **County or town may borrow money.**— Whenever the board of supervisors shall have, by resolution, appropriated and made immediately available to the requisition of the commission an amount sufficient to pay the share of the cost of such construction or improvement which is to be borne by the county and town or towns within which such highway or section thereof is located, such amount so appropriated shall be a county charge in the first instance and shall be paid by the county treasurer of the county in which such highway or section thereof is located, upon the requisition of the commission. If there are not sufficient funds in the county treasury to pay such share of the county and town or towns of the cost of construction of such improvement so appropriated and made available, the county treasurer is authorized to borrow a sufficient amount to pay such share in anticipation of taxes to be collected therefor, or the issuance of bonds as hereinafter provided, and to pledge the faith and credit of the county for the payment of the amount when due, with interest. The board of supervisors may, by resolution, authorize the issuance and sale of bonds of the county to an amount not exceeding the share of the county as apportioned by the commission, or if such apportionment has not been made, to an amount not exceeding thirty-five per centum of the estimated cost of the construction or improvement of such county highway as shown by the estimate approved by the board of supervisors pursuant to section one hundred and twenty-eight of this chapter, and apply the proceeds of such bonds to the payment of the share of the cost of the construction of such highway to be borne by the county, appropriated and made immediately available as aforesaid or to the payment and redemption of any certificates of indebtedness issued as above provided. Said bonds shall be payable not more than thirty years from their date. The board of supervisors may, by resolution, authorize the issuance and sale of bonds of the county to an amount not exceeding the share of the town or towns as apportioned by the commission, or, if such apportionment has not been made, to an amount not exceeding fifteen per centum of the estimated cost of the construction or improvement of such county highway, as shown by the estimate approved by the board of supervisors pursuant to section one hundred and twenty-eight of this chapter, and apply the proceeds of such bonds to the payment of the share of the cost of the construction of such highway to be borne by the

town or towns appropriated and made immediately available as aforesaid or to the payment and redemption of any certificates of indebtedness issued as above provided. Said bonds shall be payable not more than five years from their date. It shall be the duty of the board of supervisors to provide for the assessment, levy and collection of annual taxes sufficient to pay the principal and interest of said bonds, as the same shall become due. Upon the petition of the town board of any town, the board of supervisors of the county may, by resolution, authorize the town to borrow a sufficient sum to pay the share of the cost of the construction or improvement of a county highway which is to be borne by the town as apportioned by the commission and to issue and sell town bonds therefor. Such bonds shall be payable not more than thirty years from their date, be sold by the supervisor for not less than par and the proceeds thereof shall be paid into the county treasury to be applied in payment of the share of such cost which is to be borne by such town and the redemption of any bonds or certificates of indebtedness issued by the county to pay such share. The board of supervisors shall, from time to time, impose upon the taxable property of the town a tax sufficient to pay the principal and interest of such bonds as the same shall become due. The board of supervisors shall provide for the assessment, levy and collection by tax of all or any part of the share of the cost of such improvement apportioned to the county which has not been provided for by the issuance of county bonds as a county charge and shall also provide for the assessment, levy and collection by tax of all or any part of the share or shares of the town or towns which has not been provided for by the issuance of town bonds as a town charge.

Amended by L. 1909. ch. 486, and L. 1910, ch. 580.

By an opinion of the Attorney-General under date of March 11, 1909, it was held that while there seems to be a plain authority in this section allowing a county treasurer to borrow temporarily in anticipation of taxes and to pledge the faith and credit of the county for the payment of the amount, the right of the board to issue bonds for such highway purposes is extremely doubtful, and the action of the board of supervisors in issuing bonds under the county law for highway purposes would be invalid.

§ 143. Payments from state treasury.

Repealed by L. 1910, ch. 247.

§ 144. Payment of cost of state highway.—The entire expense of the construction or improvement of a state highway shall be paid by the state treasurer upon the warrant of the comp-

troller issued upon the requisition of the commission out of any specific appropriation made available for the construction or improvement of state highways.

§ 145. **Abolition of railroad grade crossings.**—The commission shall provide for and cause the abolition of railroad grade crossings on a state or county highway whenever practicable, in the manner provided by the railroad law. The portion of the cost of abolishing such grade crossings, which is payable under the railroad law by the state and town or village, shall be paid out of the funds available for the construction or improvement of such state or county highway as provided in this article.

The rights of a railroad company are taken and held subject always to the right of the proper public authorities to improve the highway as the public interest requires; also subject to the liability of being required to change its location, grade, etc., to conform to the requirements of such public improvement of the surface of the highway, at its own expense, without recourse in the way of damages against those lawfully engaged in improving the highway for any injury which may be done to the railroad property, when no reckless, wanton or negligent act on the part of those improving the highway caused the damage. Such changes and consequent injury to the plaintiff's property cannot be deemed the taking of private property for a public use. *M. F. C. & H. P. R. Co. v. Spuyten Duyvil Co.*, 65 Misc. 367 (1909), 121 N. Y. Supp. 656.

§ 146. **Street surface railroads on highways.**—No street surface railroad shall be constructed upon any portion of a state or county highway which has been or may be improved under the provisions of this article, nor shall any person, firm or corporation enter upon or construct any works in or upon any such highway, except upon the approval of, and under such conditions and regulations as may be prescribed by the commission, notwithstanding any consent or franchise granted by the town superintendent or municipal authorities of any town. Any person, firm or corporation violating this section shall be liable to a fine of one thousand dollars for each day of such violation, to be recovered by the commission and paid to the state treasurer to the credit of the fund for the maintenance and repair of state and county highways, and may also be removed therefrom as a trespasser by the commission upon petition to the county court of the county or the supreme court of the state.

By an opinion of the Attorney-General under date of June 17, 1909, it was held that a street railway company cannot be compelled by the Highway Commission to change the grade of its tracks; the Public Service Commission has authority in questions of this character.

By an opinion of the Attorney-General under date of June 30, 1909, it was held that an electric railway has no claim for damages against the State, county or town which may be sustained by it on account of any change made by the Highway Commission in the roadbed along a trolley line, the purpose of the commission being solely the improvement of the highway and not to oust the trolley company from its use thereof.

By an opinion of the Attorney-General February 20, 1909, it was held that the Highway Commission has the power under the provisions of this section to make rules and regulations or prescribe such conditions as it may deem wise regarding telephone and telegraph companies.

§ 147. **Where cost is assessable against abutting owners.**— If fifteen per centum of the cost of constructing or improving a highway has been or may be assessed upon abutting owners, as authorized by section ten of chapter one hundred and fifteen of the laws of eighteen hundred and ninety-eight, as the same existed prior to its repeal by chapter four hundred and sixty-eight of the laws of nineteen hundred and six, such highway shall be constructed or improved at the joint expense of the state, county and town as provided herein, and the portion of the cost so assessable upon such owners, shall be paid by the town in which such highway is located, as provided in this article.

§ 148. **Acquisition of lands for right of way and other purposes.**— If a state or county highway, proposed to be constructed or improved as provided in this article, shall deviate from the line of a highway already existing, the board of supervisors of the county where such highway is located, shall acquire land for the requisite right of way prior to the actual commencement of the work of construction. The board of supervisors may also acquire lands for the purpose of obtaining gravel, stone or other material, when required for the construction, improvement or maintenance of highways, or for spoil banks together with a right of way to such spoil banks and to any bed, pit, quarry, or other place where such gravel, stone or other material may be located.

§ 149. **Purchase of lands.**— The board of supervisors may, by resolution, authorize its chairman, a member, or a committee to purchase the lands to be acquired for the purposes specified in the preceding section. But the amount to be paid under this section to a single owner shall not exceed the sum of two hundred dollars, unless approved by the county judge and county treasurer, and in no case shall such amount exceed the sum of one thousand dollars. The purchase price of such lands shall be a county charge, and shall be paid in the same manner as awards

are paid in cases where the proceedings are taken as herein required.

§ 150. **Petition to acquire lands.**— If the board of supervisors is unable to acquire lands by purchase as provided for in the last section, the board may present to the county court of the county or to the supreme court, at a special term thereof, to be held in the judicial department in which said county is located, a petition for the appointment of three commissioners of appraisal to ascertain and determine the compensation to be paid to the owners of the land to be acquired and to all persons interested therein. Such petition shall describe the land to be acquired with a reference to the map upon which the same is shown which shall be annexed to such petition. A copy of such map shall be filed in the office of the county clerk. Such petition shall be signed and verified in the name of the board of supervisors, by the chairman or a member thereof designated for that purpose by resolution. Notice of presentation of such petition to such court shall be given by the petitioner by publishing such notice in two newspapers published in such county, once in each week for two weeks successively preceding the day of such presentation, and also by posting a copy of said notice in not less than three public places in each town in which property to be acquired is located, at least eight days preceding the day of such presentation.

§ 151. **Commissioners to be appointed.**— Upon such presentation, such court shall, after hearing any person owning or claiming an interest in the lands to be acquired who may appear, appoint three disinterested persons as commissioners. And in case a commissioner shall at any time decline to serve, or shall die, or for any cause become disqualified or disabled from serving as such, the said court, at a similar special term, may, upon similar notice, application and hearing, and upon such notice to the land owners as the court may prescribe, appoint another person, similarly qualified, to fill the vacancy caused thereby.

§ 152. **Duties of commissioners.**— The said commissioners shall take the oath of office prescribed by the constitution, which oath shall be filed in the office of the county clerk of the county. The commissioners shall, with all reasonable diligence, proceed to examine such highways and lands to be acquired and may enter upon such lands for such purpose. Said commissioners shall cause a notice to be published in two such newspapers as aforesaid, once each week for two weeks successively next preceding

the day of meeting mentioned in such notice, that at a stated time and place within such county they will meet for the purpose of hearing the parties claiming an interest in the damages to be awarded for the lands to be taken for such highways. Said notice shall also state the fact that a map or maps showing the land to be acquired has been filed in the county clerk's office. At the time and place of said meeting and at any adjournment thereof which said commissioners shall publicly make, they shall hear the proofs and allegations of all interested parties. They may adjourn the proceedings before them from time to time, issue subpoenas or administer oaths in such proceedings; and shall keep minutes of their proceedings and reduce to writing all oral evidence given before them. They shall thereafter make and sign a report in writing, in which they shall assess, allow and state the amount of damages to be sustained by the owners of the several lots, pieces or parcels of land to be taken for the purposes aforesaid. Such report shall contain the names of the owners of any parcel of land to be acquired as aforesaid, except that in case the commissioners are unable to ascertain the names of such owners, they may in place of the names of such undiscovered parties insert the words "unknown owners," in their report. The said commissioners shall file their said report, together with the minutes of their proceedings, in the office of county clerk of such county. After said report shall have been completed and filed as aforesaid, the commissioners shall, after publishing a notice in like manner as that provided in section one hundred and fifty-two, apply to the county court of the county or to the supreme court, at a special term thereof to be held in the judicial department in which said county is located, to have the said report confirmed. If no sufficient reason to the contrary shall appear, the court shall confirm said report. Otherwise it may refer the same back to the said commissioners for revision or correction; and after such revision or correction the same proceedings shall be taken as are hereinbefore provided for, and the commissioners shall in the same manner make renewed application for the confirmation of such report, and the court shall thereupon confirm or refer back the said report, and such proceedings shall be repeated until a report shall be presented which shall be confirmed by the said court.

§ 153. **County treasurer to pay awards.**—Within six months after the report of said commissioners shall be confirmed as afore-

said, the county treasurer of such county shall pay to the persons named therein the amounts awarded to them for damages with six per centum interest thereon from the day of the confirmation of said report. Such amounts with interest and the amounts paid in pursuance of this article shall be a county charge and shall be paid by the county treasurer, in case of purchase upon requisition of the chairman of the board of supervisors of said county, or by any member or committee thereof designated for that purpose by said board and in case of a petition for the acquisition of such lands, upon service of a certified copy of the order confirming such awards. In case there are unknown owners, to whom the award is made in said report, the said county treasurer shall deposit the amounts awarded to them with like interest in some trust company or bank in such manner as the said court shall in the order of confirmation direct, such amount to be paid out upon the application of said unknown owners when discovered. From the date of the confirmation of such report by the order of the said court the title of all lands therein designated shall vest in said county for the purposes of a highway forever.

§ 154. **Costs; commissioners' fees.**—In all cases of assessment of damages by commissioners appointed by the court, the costs thereof shall be a county charge in the first instance, and be paid by the county treasurer as hereinbefore provided, except when reassessment of damages shall be had on the application of the party for whom damages were assessed, and such damages shall not be increased on such reassessment, the costs shall be paid by the party applying for the reassessment, and when application shall be made by two or more persons for reassessment of damages all persons who may be liable for costs under this section shall be liable in proportion to the amount of damages respectively assessed to them by the first assessment, and may be recovered by action. Each commissioner appointed by the court as provided in this article for each full day necessarily employed as such, shall be entitled to the sum of six dollars and his necessary expenses. The amount of compensation to which such commissioners are entitled shall be determined by the court in which the proceeding is pending, upon verified accounts presented by such commissioners, stating in detail the number of hours necessarily employed in the discharge of their duties, and the nature of the services rendered. The audit and determination of the courts as to the amount justly due shall be final.

§ 155. **Land may be sold or leased; disposition of proceeds.**—Any lands acquired by purchase or condemnation, for the purpose of obtaining gravel, stone or other materials, for the construction or maintenance of highways improved or constructed as provided in this article, or required for spoil banks, may be sold or leased by the board of supervisors of any county, when no longer needed for any such purpose. The proceeds thereof shall be paid into the county treasury and shall be retained therein as a separate fund available for the construction or maintenance of highways improved or constructed under this article.

§ 156. **Application of provisions of labor law.**—The provisions of section three of the labor law, as amended by chapter five hundred and six of the laws of nineteen hundred and six, which except from the provisions of that section labor performed in the construction, maintenance and repair of highways outside the limits of cities and villages, shall apply to the construction, improvement and maintenance of state and county highways as provided in this chapter.

§ 157. **Highways and bridges on Indian reservations.**—When any portion of a county highway designated for improvement or construction in a county, as provided in this article, is located on an Indian reservation, the entire cost of the improvement or construction of such portion shall be paid by the state in the same manner as the state's share of the cost of such county highway, out of any specific appropriation made available for the construction or improvement of county highways. The commission shall have exclusive supervision and control of all bridges constructed or to be constructed by the state on any Indian reservation, and may make and enforce such reasonable rules and regulations concerning their use, as it shall deem necessary.

§ 158. **Appointment of reservation superintendent.**—The commission may appoint a reservation superintendent for the Indian reservation in each county containing such Indian reservation who shall exercise the powers and perform the duties hereby conferred and imposed upon town superintendents, except that the written statement as provided for by section ninety of the highway law shall be filed with the commission on or before the thirty-first day of October in each year, and excepting that all orders of the Indian reservation superintendents shall be drawn upon and presented to the county treasurer of the county in which such Indian reservation exists for payment as hereinafter provided.

§ 159. **Custody of moneys, et cetera.**—There shall be paid by the state treasurer to the county treasurer of each county in the state containing an Indian reservation or reservations an amount which shall not be less than thirty dollars per mile, based on the entire mileage of the public highways within the Indian reservation in such county. All moneys of the state available for the improvement, repair and maintenance of highways and bridges and for the purchase of machinery, tools and implements within Indian reservations shall be paid to the county treasurer of each county containing such Indian reservation who shall be the custodian thereof and accountable therefor, and it shall be expended for the repair and improvement of the public highways and bridges and for the purchase of machinery, tools and implements within such Indian reservations at such places and in such manner as may be directed by the commission, and such moneys shall be paid out by the county treasurer upon the written order of the Indian reservation superintendent in accordance with such directions. The county treasurer and the Indian reservation superintendent shall keep their accounts according to the methods and use the blanks as prescribed by the commission. All orders and records of accounts shall be filed in the office of the commission on or before the thirty-first day of October in each year and shall be preserved by the commission as Indian reservation records. The reservation superintendent shall receive a per diem or annual allowance as compensation for services and expenses in an amount to be fixed by the commission, which shall be paid by the county treasurer to the reservation superintendent upon orders of the commission. The commission shall annually cause to be inspected all of the bridges within Indian reservations of each county and shall require a complete report of such inspection which shall show in detail the condition of the bridges inspected, the necessary work to be performed in the repair and maintenance of such bridges and the estimated cost thereof. The commission shall revise such estimates and annually report to the legislature its estimated cost for such repairs and construction for the ensuing year in detail by reservation and county. The maintenance, repair and construction of the public highways within the Indian reservations shall be under the direct supervision and control of the commission and they shall be responsible therefor. There shall be annually appropriated for the construction, repair and maintenance of such highways and bridges and for the purchase and repair

of machinery, tools and implements, an amount sufficient to provide therefor, based upon the estimates prepared and submitted by the commission to the legislature. The comptroller upon requisition of the commission shall draw his warrant on the state treasurer in favor of the county treasurer in which such highways or bridges are located, or in which machinery, tools or implements are to be purchased, for an amount which shall not be in excess of the total amount apportioned by the commission to the Indian reservation of any county. The moneys so paid shall be deposited by the county treasurer of the county to the credit of the fund for the maintenance, repair and construction of highways and bridges and the purchase and repair of machinery, tools and implements in the Indian reservation of said county.

Added by L. 1910, ch. 46.

ARTICLE VII.

Maintenance of State and County Highways.

Section 170. Commission to provide for maintenance and repair.

171. Appropriations by state; apportionment of moneys.

172. Cost to town for maintenance of state and county highways.

173. Disbursement of maintenance funds.

174. Reports of county treasurer.

175. Compensation of town superintendents.

176. Liability of state for damages.

177. Maintenance of state and county highways in villages.

178. State to share expense of maintaining certain country roads.

179. Sprinkling; removal of filth and refuse.

§ 170. **Commission to provide for maintenance and repair.**— The maintenance and repair of state and county highways, exclusive however of the cost of maintaining and repairing bridges having a span of five feet or over, shall be under the direct supervision and control of the commission and they shall be responsible therefor. The commission shall have the power

1. To adopt proper rules and regulations therefor and the work shall be performed by the town or the district or county superintendents as therein provided and in case the commission is unable to thus secure the proper performance of said work they shall have the power to contract for any necessary repair and likewise to provide for the due supervision of said work.

2. To purchase materials for such maintenance and repair, and contract for the delivery thereof at convenient intervals along such highways.

3. To provide for a system of patrol of such highways, or adopt such other system as may seem expedient so that each section of such highways shall be under constant observation, and be effectively and economically preserved, maintained and repaired.

By an opinion of the Attorney-General under date of March 20, 1909, it was held that this section taken in connection with section 130 shows very plainly that the intention of the Legislature was to have the work upon the State and county highways done by the town or county superintendent under rules and regulations to be prescribed by the Commission, and that if such work could not be satisfactorily done in that manner then the work should be done by contract.

Authority of State Highway Commission to control motor vehicle races. Where permission has been given by the proper local authorities for the running of a motor vehicle race under provisions of section 296, post, the State Highway Commission is without authority to impose conditions additional to those imposed by such local authorities. The consent of the State Highway Commission has no right to promulgate a rule that before a motor vehicle race is run the participants shall make a deposit with it of \$200 per mile for each mile of road to be raced over for each day of the race. *Morrell v. Skene*, 64 Misc. 185 (1909), 119 N. Y. Supp. 28.

§ 171. **Appropriations by state; apportionment of moneys.**—There shall be annually appropriated for the maintenance and repair of state and county highways an amount sufficient to provide therefor, based upon the estimates prepared and submitted by the commission to the legislature as provided in section twenty-one of this chapter. Not less than ninety per centum of the amount so appropriated shall be apportioned by the commission each year among the counties and the several towns therein in accordance with the proportion which the amount to be apportioned bears to the total amount of such estimates. The comptroller, upon the requisition of the commission, shall draw his warrant upon the state treasurer in favor of the county treasurer of the county in which the state or county highways are located, for an amount which shall not be in excess of the total amount apportioned by the commission to all the towns in such county. The moneys so paid shall be deposited by the county treasurer to the credit of the fund for the maintenance of state and county highways in the several towns of the county. Not more than ten per centum of the amount so appropriated each year may be reserved by the commission for the repair or rebuilding of a state or county highway which shall at any time be damaged or destroyed by the elements or otherwise, which shall be paid by the state treasurer upon the warrant of the

comptroller drawn upon the requisition of the commission issued when required for such purposes.

§ 172. Cost to town for maintenance of state and county highways.—Each town shall pay for the maintenance and repair of state and county highways each year the sum of fifty dollars for each mile or major fraction of a mile of the total mileage of state and county highways within the town. On or before the first day of November in each year the commission shall transmit to the clerk of the board of supervisors of each county, and to the county clerk thereof, a statement specifying the number of miles of state and county highways in each town in such county and the amount which each of such towns is required to pay into the county treasury on account of the maintenance of state and county highways. The board of supervisors shall cause the amount to be paid by each town of the county to be assessed, levied and collected therein in the same manner as other town charges, and such amount when collected shall be paid into the county treasury, to the credit of the fund for the maintenance of state and county highways in the several towns of the county.

By an opinion of the Attorney-General under date of October 29, 1909, it was held that the city of Oneida may be required by the Highway Commission to raise \$50 per mile for highways improved by State aid within the city limits, but outside the corporation tax district.

By an opinion of the Attorney-General under date of February 27, 1909, it was held that in those towns where town boards of auditors are elected the auditing of accounts against the town growing out of highway work should be done by the town board of auditors.

By an opinion of the Attorney-General under date of April 22, 1909, it was held that the Highway Commission may mandamus a board of supervisors to compel it to raise money for the maintenance of county highways.

§ 173. Disbursement of maintenance funds.—The amount apportioned by the commission for the maintenance and repair of state and county highways in each town together with the amount paid by each town therefor shall be expended for the repair and maintenance of such highways in such town. The county treasurer shall pay out the moneys received by him as provided in this article upon the written order of the commission. Such order shall be issued upon vouchers duly presented to the commission in the form to be prescribed by them. The commission may adopt rules and regulations providing for the presentation and payment of accounts for maintenance and repair.

§ 174. Reports of county treasurer.—The county treasurer shall report to the commission monthly or oftener, if required by the

commission, the amount received by him on account of the maintenance and repair of state and county highways in the several towns in his county and the expenditures made by him out of such moneys. The form and contents of such report shall be prescribed by the commission.

§ 175. **Compensation of town superintendents.**— If a town superintendent shall be directed by the commission to perform services in respect to the maintenance and repair of state and county highways within his town his compensation therefor shall be paid out of the moneys set apart as provided in this article for such maintenance and repair. Such compensation shall be fixed by the commission but shall in no case exceed the amount fixed by the town board as compensation for his services performed for the town under this chapter, and in rendering his monthly bill to the supervisor, and his annual bill to the town board, no charge shall be made against the town for an expense or per diem charge upon any date for which an audit shall have been allowed by the state commission. And said state commission shall make proper rules and regulations to carry into effect this provision and to furnish to the town board prior to the annual audit day due information as to the dates, compensation and expenses allowed by them to said town superintendent from the state repair fund.

§ 176. **Liability of state for damages.**— The state shall not be liable for damages suffered by any person from defects in state and county highways, except such highways as are maintained by the state by the patrol system, but the liability for such damages shall otherwise remain as now provided by law, notwithstanding the construction or improvement and maintenance of such highways by the state under this chapter; but nothing herein contained shall be construed to impose on the state any liability for defects in bridges over which the state has no control.

Amended by L. 1910, ch. 570.

§ 177. **Maintenance of state and county highways in villages.**— Any portion of a state or county highway constructed or improved within the limits of an incorporated village, as provided in this chapter, shall be maintained and kept in repair by the board of trustees at the expense of the village in accordance with the rules and regulations of the commission under the supervision and direction of the district or county superintendent.

§ 178. State to share expense of maintaining county roads.—

Whenever any county has constructed, maintained or improved, or shall hereafter construct, maintain or improve, under a general or special law, a county road or roads, as defined in subdivision three of section three, without expense to the state, the state shall be liable to annually contribute toward the expense of maintaining such road or roads fifty per centum of the amount appropriated by such county for the maintenance of such road or roads during the preceding year, unless provision be otherwise made for such maintenance as provided in this section. The clerk of the board of supervisors of a county entitled to a contribution from the state toward the maintenance of its roads under this section shall annually, on or before the first day of January, transmit to the state comptroller a statement certified by him and signed and verified by the chairman of such board, stating the amount appropriated by the board of supervisors of such county for the maintenance of such county road or roads during the preceding year. The comptroller shall draw his warrant upon the state treasurer in favor of the treasurer of such county, for an amount equal to fifty per centum of the amount so appropriated. Such money shall be applicable to the repair and permanent improvement of such county road or roads, and shall be expended in the same manner as money appropriated by the county for such purpose. The sum paid by the state to any county by virtue of this section shall not exceed, in any one year, one-tenth of one per centum of the taxable property of such county.

Amended by L. 1910, chs. 165 and 567.

By an opinion of the Attorney-General under date of April 28, 1909, it was held that the Highway Commission should prescribe rules and regulations for the improvement and repair of county roads; that they should require a uniform system of accounting and see that all State money is honestly and judiciously expended.

§ 179. Sprinkling; removal of filth and refuse.— Upon petition signed by a majority of the taxpayers owning property abutting upon an improved state or county highway and filed with the town clerk, the town board may set aside any section of such highway outside of a village and contract for the sprinkling of the roadbed with water and also contract for the removal of filth and refuse therefrom. No such contract shall be entered into unless previously approved by the county superintendent. The amount of any such contract so entered into shall be assessed

upon the property abutting upon such section in the proportion which the frontage of each parcel thereof bears to the length of the section exclusive of intersecting highways. Such assessment shall be made, levied and collected in the same general manner, and at the same time and by the same officers as the town taxes of said town are assessed, levied and collected.

ARTICLE VIII.

Laying Out, Altering and Discontinuing Highways ; Private Roads.

- Section 190. Survey for the laying out of a highway.
- 191. Highways by dedication.
- 192. Application.
- 193. Application for condemnation commissioners.
- 194. Appointment of condemnation commissioners and their duties.
- 195. Notice of meeting.
- 196. Decision of condemnation commissioners in favor of application.
- 197. Damages in certain cases, how estimated.
- 198. Decision of condemnation commissioners denying application.
- 199. Motion to confirm, vacate or modify.
- 200. Limitations upon laying out highways.
- 201. Laying out highways through burying-grounds.
- 202. Costs, by whom paid.
- 203. Damages assessed and costs to be audited.
- 204. When officers of different towns disagree about highway.
- 205. Difference about improvements.
- 206. Highway in two or more towns.
- 207. Laying out, dividing and maintaining highway upon town line.
- 208. Final determination, how carried out.
- 209. Highways by use.
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- 212. Jury to determine necessity and assess damages.
- 213. Copy application and notice delivered to applicant.
- 214. Copy and notice to be served.
- 215. List of jurors.
- 216. Names struck off.
- 217. Place of meeting.
- 218. Jury to determine and assess damages.
- 219. Their verdict.
- 220. Value of highway discontinued.
- 221. Papers to be recorded in town clerk's office.
- 222. Damages to be paid before opening the road.
- 223. Fees of officers.
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- 226. For what purpose private road to be used.

Section 227. Highways or roads along division lines.

228. Adjournments.

229. Widening roads, petition.

230. Powers and duties of commissioners.

231. Notice of decision to supervisors.

232. Widening, how constructed.

233. Actions to compel widening, how affected by petition.

234. Highways abandoned.

235. Highways in lands acquired by the United States, for fortification purposes, deemed abandoned.

236. Discontinuance of highway.

237. Description to be recorded.

238. Damages caused by discontinuance.

239. Papers, where filed.

240. Costs of motion.

§ 190. **Survey for the laying out of a highway.**—Whenever the town superintendent shall lay out any highway, either upon application to him or otherwise, he shall notify the district or county superintendent, whose duty it shall be to either make a survey, or cause the same to be made, and the town superintendent shall incorporate the survey in an order to be signed by him, and to be filed and recorded in the office of the town clerk, who shall note the time of recording the same.

§ 191. **Highways by dedication.**—Whenever land is dedicated to a town for highway purposes therein, the town superintendent may with the consent of the town board, either with or without a written application therefor, and without expense to the town, make an order laying out such highway, upon filing and recording in the town clerk's office with such order a release of the land from the owner thereof. A highway so laid out must not be less than two rods in width. Section two hundred does not apply to a highway by dedication. Such town superintendent may also, upon written application and with the written consent of the town board, make an order laying out or altering a highway, or discontinuing a highway, which has become useless since it was laid out, upon filing and recording in the town clerk's office, with such application, consent and order, a release from all damages from the owners of lands taken or affected thereby, when the consideration for such release, as agreed upon between such town superintendent, and owner or owners, shall not in any one case, from any one claimant, exceed one hundred dollars, and from all claimants five hundred dollars. An order of the town superintendent, as herein provided, shall be final.

§ 192. **Application.**— Any person or corporation assessable for highway taxes may make written application to the town superintendent of the town in which he or it shall reside, or is assessable, to alter or discontinue a highway, or to lay out a new highway.

§ 193. **Application for condemnation commissioners.**— Whenever the land is not dedicated to the town for highway purposes, and not released as herein provided, the applicant shall, within thirty days after presenting the application to the town superintendent, and after at least five days' notice to said town superintendent of the time and place of the application to the county court, in this section provided for, by verified petition showing the applicant's right to so present the same, and that such application has been in good faith presented, and if the county judge require on such notice to such parties interested as he shall direct, apply to the county court of the county where such highway shall be, for the appointment of three commissioners to determine upon the necessity of such highway proposed to be laid out or altered, or to the uselessness of the highway proposed to be discontinued and to assess the damages by reason of laying out, opening, altering or discontinuing such highway. Such application shall be accompanied by the written undertaking of the applicant executed by one or more sureties, approved by the county judge, to the effect that if the commissioners appointed determine that the proposed highway or alteration is not necessary or that the highway proposed to be discontinued is not useless, the sureties will pay to the commissioners their compensation at the rate of four dollars for each day necessarily spent and all costs and expenses necessarily incurred in the performance of their duties, which amount shall not exceed the sum of one hundred dollars. Whenever the town superintendent of highways of any township shall determine that public necessity requires the laying out of a new or additional highway, and the land therefor cannot be obtained by the dedication of the owners thereof, he may apply to the town board of his town for permission to institute a proceeding to acquire so much land as may be necessary to lay out such new or additional highway, and when such consent shall have been given by the town board of such town, the said town superintendent of highways may apply to the county court of the county in which such proposed highway is situated, for the appointment of commissioners in like manner as is provided by this section where such application is made by any person or corporation assessable for highway taxes, except that when such application shall be

made by the town superintendent of highways, that at least five days' notice of the time and place of the application shall be given to the owners of the lands sought to be acquired, providing such owners can be ascertained by such town superintendent, or if the owners thereof are not known to the town superintendent, by the serving of a copy of the notice of such application upon the occupants of said premises. When such application is made by the town superintendent of highways, no undertaking shall be required of the applicant.

Amended by L. 1910, ch. 344.

§ 194. **Appointment of condemnation commissioners, and their duties.**— Upon the presentation of such petition, the county court must appoint three disinterested freeholders, who shall not be named by any person interested in the proceedings, who shall be residents of the county, but not of the town wherein the highway is located, and who shall not be related by consanguinity or affinity within the sixth degree to the applicant or to any person interested in the proceeding or to the owner of any lands to be taken or affected by the laying out, alteration or discontinuance of a highway, as commissioners to determine the questions mentioned in the last section. They shall take the constitutional oath of office, and appoint a time and place at which they shall all meet to hear the town superintendent and supervisor of the town where such highway is situated, and others interested therein. They shall personally examine the highway described in the application, hear any reasons that may be offered for or against the laying out, altering or discontinuing of the highway, and assess all damages by reason thereof. They may adjourn the proceedings before them from time to time, issue subpoenas and administer oaths in such proceedings, and they shall keep minutes of their proceedings, and shall reduce to writing all oral evidence given before them upon the subject of the assessment of damages. They shall make duplicate certificates of their decision, and shall file one in the town clerk's office of the town, and the other, with such minutes and evidence, in the county clerk's office of the county in which the highway or proposed highway is located.

§ 195. **Notice of meeting.**— The applicant shall cause, at least eight days previous, written or printed notice to be posted up in not less than three public places in the town specifying, as near as may be, the highway proposed to be laid out, altered or discontinued, the tracts or parcels of land through which it runs,

and the time and place of the meeting of the commissioners appointed by the county court to examine the highway as mentioned in the last section. Such notice shall also, in like time, be personally served on the owner and occupant of the land, if they reside in the town, or by leaving the same at their residence with a person of mature age; if they do not reside in the same town, or service cannot be made, a copy of such notice shall be mailed to such owner and occupant, if their post-office address is known to the applicant or ascertainable by him upon reasonable inquiry.

§ 196. Decision of condemnation commissioners in favor of application.—If a majority of the commissioners appointed by the county court shall determine that the highway or alteration applied for is necessary, or that the highway proposed to be discontinued is useless, they shall assess all damages which may be required to be assessed by reason thereof and make duplicate certificates to that effect. If the petition is for the laying out of a highway, the commissioners shall also include in their certificates what the probable cost would be of laying out and completing the proposed highway, in their opinion, based upon the evidence given before them on the hearings.

§ 197. Damages in certain cases; how estimated.—The owner of lands within the bounds of a highway discontinued may enclose the same and have the exclusive use thereof, and the benefits resulting therefrom may be deducted in the assessment of damages caused by the laying out of a highway through his other lands in place of the discontinued highway.

§ 198. Decision of condemnation commissioners denying application.—If a majority of the commissioners appointed by the county court shall determine that the proposed highway or alteration is not necessary, or that the highway proposed to be discontinued is not useless, they shall make duplicate certificates to that effect. The costs and expenses necessarily incurred by such commissioners in the proceedings shall be indorsed upon such duplicate certificates, and upon a confirmation of such decision and of the amount of such costs and expenses by the county court, such costs and expenses not exceeding one hundred dollars shall be payable by the applicants.

§ 199. Motion to confirm, vacate or modify.—Within thirty days after the decision of the commissioners shall have been filed in the town clerk's office, any person interested in the proceeding may apply to the court appointing the commissioners for an order confirming, vacating or modifying their decision, and such court

may confirm, vacate or modify such decision. If the decision be vacated, the court may order another hearing of the matter before the same or other commissioners. If no such motion is made, the decision of the commissioners shall be deemed final. Such motion shall be brought on upon the service of papers upon adverse parties in the proceeding, according to the usual practice of the court in actions and special proceedings, pending therein; and the decision of the county court shall be final, excepting that a new hearing may be ordered as herein provided, and excepting that any such decision may be reviewed on appeal upon questions affecting jurisdiction, and rulings and exceptions made and taken upon the hearing before the commissioners. If the final decision be adverse to the applicant, no other application for laying out, altering or discontinuing the same highway shall be made within two years.

§ 200. **Limitations upon laying out highways.**—No highways shall be laid out less than three rods in width, nor through an orchard of the growth of four years or more, or any garden cultivated as such for four years or more, or grape vineyards of one or more years' growth, and used in good faith for vineyard purposes, or buildings or any fixtures or erections for the purposes of trade or manufactures, or any yard or enclosure necessary to the use and enjoyment thereof, without the consent of the owner or owners thereof, unless so ordered by the county court of the county in which the proposed highway is situated; such order shall be made on the certificate of the town superintendent of the town or towns in which the proposed highway is situated, showing that the public interest will be greatly promoted by the laying out and opening of such highway, and that commissioners appointed by the court have certified that it is necessary; a copy of the certificate with eight days' notice of the time and place of the hearing before the county court shall be served on the owners of the land, or if they are not residents of the county upon the occupants; the county court upon such certificates, and the proofs and other proceedings therein, may order the highway to be laid out and opened, if it deems it necessary and proper. The town superintendent shall then present the order of the county court, with the certificate and proofs upon which it was granted, certified by such court, to the appellate division of the supreme court in the judicial department in which the land is situated upon the usual notice of motion, served upon the owner or occupant, or the attorney who appeared for them in the county court. If such appellate division of the supreme court shall confirm the order of the county court, the

town superintendent shall then lay out and open such highway as in other cases. The provisions of this section shall not apply to vineyards planted or to buildings, fixtures, erections, yards or enclosures made or placed on such land after an application for the laying out and opening the highway shall have been made. In case the highway to be laid out shall constitute an extension or continuation of a public highway already in use, and shall not, as to such new portion, exceed half a mile in length, the town superintendent may lay out such extension or continuation of a width of not less than three rods, provided, however, that it be not less than the widest part of the highway of which it is an extension or continuation. In such case the town superintendent shall specify in his certificate the precise width of the new portion of such highway, and shall certify that such width is as great at least as the widest part of the highway of which it is a continuation or extension. No highway shall be laid out which shall be identical or substantially so with a highway previously discontinued or abandoned for public purposes within seven years of such discontinuance or abandonment, in counties adjoining cities with upward of one million inhabitants.

§ 201. **Laying out highways through burying-grounds.**—No private road or highway shall be laid out or constructed upon or through any burying-ground, unless the remains therein contained are first carefully removed, and properly reinterred in some other burying-ground, at the expense of the persons desiring such road or highway, and pursuant to an order of the county court of the county in which the same is situated, obtained upon notice to such persons as the court may direct.

§ 202. **Costs; by whom paid.**—In all cases of assessments of damages by commissioners appointed by the county court, the costs thereof shall be paid by the town thereof, except that when reassessment of damages shall be had on the application of the party for whom the damages were assessed, and such damages shall not be increased on such reassessment, the costs shall be paid by the party applying for the reassessment; and when application shall be made by two or more persons for the reassessment of damages, all persons who may be liable for costs under this section shall be liable in proportion to the amount of damages respectively assessed to the first assessment, and may be recovered by action in favor of any person entitled to the same. Each commissioner appointed by the court, for each day necessarily employed as such, shall be entitled to four dollars and his necessary expenses.

§ 203. **Damages assessed, and costs to be audited.**—All damages to be agreed upon, or which may be finally assessed, and costs against the town, as herein provided, shall be laid before the board of town auditors, or in towns not having a board of town auditors, before the town board, to be audited with the charges of the commissioners, justices, surveyors or other persons or officers employed in making the assessment, and for whose services the town shall be liable, and the amount shall be placed upon the town abstract and levied and collected in the town in which the highway is situated, and the money so collected shall be paid to the supervisor of such town, who shall pay to the owner the sum assessed to him, and appropriate the residue to satisfy the charges aforesaid.

§ 204. **When officers of different towns disagree about highway.**—When the town superintendent of any town or officers of any village or city having the powers of town superintendents shall differ with the town superintendent or superintendents of any other town or with the officers of such a village or city having the powers of town superintendents in the same county, relating to the laying out of a new highway or altering an old highway, extending into both towns, or a town and a village or city, or upon the boundary line between such towns or such town and a village or city, or when the town superintendent of a town in one county shall differ with the town superintendent of a town or the officers of a village or city having the powers of town superintendents in another county, relating to the laying out of a new highway, or the altering of the old highway, which shall extend into both counties, or be upon the boundary line between such counties, the town superintendents of both towns or the officers of the village or city having such powers shall meet on a five days' written notice, specifying the time and place, within some one of such towns, villages or cities, given by either of such town superintendents, or officers having powers of town superintendents, to make their determination in writing, upon the subject of their differences. If they cannot agree, they or either of them may certify the fact of their disagreement to the county court of that county, if the proposed highway is all in one county, or if in different counties, or if the county judge is disqualified or unable to act, to the supreme court; such court shall thereupon appoint three commissioners, freeholders of the county, not residents of the same town, village or city, where the highway is located; or if between two counties, then freeholders of another county, who shall take the

constitutional oath of office, and upon due notice to all persons interested view the proposed highway, or proposed alteration of a highway, administer all necessary oaths, and take such evidence as they deem proper, and shall decide all questions that shall arise on the hearing, as to the laying out or altering of such highway, its location, width, grade and character of roadbed, or any point that may arise relating thereto; and if they decide to open or alter any highway, they shall ascertain and appraise the damages, if any, to the individual owners and occupants of the land through which such new or altered highway is proposed to pass, and shall report such evidence and decision to such court, with their assessment of damages, if any, with all convenient speed. On the coming in of such report, the court may, by order, confirm, modify or set aside the report in whole or in part and may order a new appraisal by the same or by other commissioners, and shall decide all questions that may arise before it. And all orders and decisions in the matter shall be filed in the county clerk's office of each county where the highway is located, and shall be duly recorded therein. This section shall not be so construed as to compel any town or towns to construct, repair or maintain a bridge upon a boundary between towns, where previous to May seventh, nineteen hundred and three, an application had been made to any court, to compel the construction, repair and maintenance of a bridge upon such a boundary line, and such application had been denied.

§ 205. **Difference about improvements.**—When the town superintendent or the officers of a village or city having the powers of town superintendents therein, shall desire to make a new or altered highway extending beyond the bounds of such town, village or city, a better highway than is usually made for a common highway, with a special grade or roadbed, drainage or improved plan, and are willing to bear the whole or a part of the expense thereof beyond such bounds, but cannot agree in regard to the same, upon written application of either of the superintendents or officers and notice to all parties interested, such court shall make an equitable adjustment of the matters, and may direct that in consideration of the payment of such portion of the additional expense by the town, village or city that desires the improved and better highway, as shall be equitable, its officers, contractors, servants and agents may go into such town, village or city, and make the grade and roadbed, and do whatever may be necessary and proper for the completion of such better highway, advancing the money to do it;

the amount of damages to each owner or occupant shall be ascertained and determined by commissioners, who shall be appointed, and whose proceedings shall be conducted in the manner provided by the last preceding section; and upon the coming in of their report of damages, and of the expenses paid, such court shall, on notice to all parties interested, direct that the amount of damages assessed each owner or occupant, if any, and all such expenses be paid by each, any or all of such towns, villages or cities as shall be just and equitable, and the damages and expenses assessed and allowed, as in this and the last preceding sections, shall be paid and collected as if fixed by the town superintendents of the towns, or the officers of such villages or cities having the powers of such superintendents. Every commissioner appointed as herein provided shall be paid six dollars for each day actually and necessarily employed in such service and necessary expenses.

§ 206. **Highway in two or more towns.**—When application is made to lay out, alter or discontinue a highway located in two or more towns, all notices or proceedings required to be served upon the town superintendents shall be served upon the town superintendent of each town; and the commissioners appointed by the court shall determine the amount of damages to be paid by each town, and when the towns are in different counties, the application for the appointment of commissioners shall be made to a special term of the supreme court held in the district where the highway or some part of it is located; and the same proceedings shall thereafter be had in the supreme court of such district as are authorized by this chapter to be had in the county court.

§ 207. **Laying out, dividing and maintaining highway upon town line.**—An application to lay out a highway upon the line between two or more towns shall be made to the town superintendents of each town, who shall act together in the matter; and, upon laying out any such highway, the expense of opening, working and keeping the same in repair shall be borne equally by such towns. The town superintendents shall cause a map and survey of the highway to be recorded in the office of the town clerk in each of the respective towns. If such highway be upon a line between one or more towns and a city or incorporated village, such application shall also be made to the officers of such city or village having the powers of the town superintendents and such officers may agree with the town superintendents of such towns as to division of such expense. Whenever such officers shall dis-

agree, the question shall be submitted to the district or county superintendent or superintendents representing the county or counties, district or districts in which such highway is located and their decision shall be final when approved by the state commission. All highways heretofore laid out upon the line between any two towns or between a town and a city or an incorporated village shall be divided and allotted or redivided and reallotted, recorded and kept in repair in the manner above directed; and all bridges upon such highways shall be built and maintained jointly by the towns whether wholly located within one of them or otherwise.

§ 208. **Final determination, how carried out.**—The final determination of commissioners, appointed by any court, relating to laying out, altering or discontinuing a highway, and all orders and other papers filed or entered in the proceedings, or certified copies thereof from the court where such determination, order and papers are filed and entered, shall be forthwith filed and recorded in the town clerk's office of the town where the highway is located; and every such decision shall be carried out by the town superintendent of the town, the same as if they had made an order to that effect.

§ 209. **Highways by use.**—All lands which shall have been used by the public as a highway for the period of twenty years or more, shall be a highway, with the same force and effect as if it had been duly laid out and recorded as a highway, and the town superintendent shall open all such highways to the width of at least two rods.

§ 210. **Fences to be removed.**—Whenever a highway shall have been laid out through any inclosed, cultivated or improved lands, in conformity to the provisions of this chapter, the town superintendent shall give to the owner or occupant of the land through which such highway shall have been laid, sixty days' notice in writing to remove his fences; and if such owner shall not remove his fences within sixty days, the town superintendent shall cause them to be removed, and shall direct the highway to be opened and worked.

§ 211. **Private road.**—An application for a private road shall be made in writing to the town superintendent of the town in which it is to be located, specifying its width and location, courses and distances, and the names of the owners and occupants of the land through which it is proposed to be laid out.

§ 212. **Jury to determine necessity and assess damages.**— The town superintendent to whom the application shall be made shall appoint as early a day as the convenience of the parties interested will allow, when, at a place designated in the town, a jury will be selected for the purpose of determining upon the necessity of such road, and to assess the damages by reason of the opening thereof.

§ 213. **Copy application and notice delivered to applicant.**— Such town superintendent shall deliver to the applicant a copy of the application, to which shall be added a notice of the time and place appointed for the selection of the jury, addressed to the owners and occupants of the land.

§ 214. **Copy and notice to be served.**— The applicant on receiving the copy and notice shall, on the same day, or the next day thereafter, excluding Sunday and holidays, cause such copy and notice to be served upon the persons to whom it is addressed, by delivering to each of them who reside in the same town a copy thereof, or in case of his absence, by leaving the same at his residence and upon such as reside elsewhere, by depositing in the postoffice a copy thereof to each, properly enclosed in an envelope, addressed to them respectively at their postoffice address, and paying the postage thereon, or, in case of infant owners, by like service upon their parent or guardian.

§ 215. **List of jurors.**— At such time and place, on due proof of the service of the notice, the town superintendent shall present a list of the names of thirty-six resident freeholders of the town, in no wise of kin to the applicant, owner or occupant, or either of them, and not interested in such lands.

§ 216. **Names struck off.**— The owners or occupants of the land may strike from the list not more than twelve names, and the applicant a like number; and of the number which remains, the twelve names standing first on the list shall be the jury.

§ 217. **Place of meeting.**— The town superintendent shall then appoint some convenient time and place for the jury to meet, and shall summon them accordingly.

§ 218. **Jury to determine and assess damages.**— The town superintendent and all the persons named and summoned on such jury, shall meet at the time and place appointed; but if one or more of the twelve jurors shall not appear, the town superintendent shall summon so many qualified to serve as such jurors as will be sufficient to make the number present twelve to forthwith appear and act as such; and when twelve shall have so appeared, they shall

constitute the jury and shall be sworn well and truly to determine as to the necessity of the road, and to assess the damages by reason of the opening thereof.

§ 219. **Their verdict.**— The jury shall view the premises, hear the allegations of the parties, and such witnesses as they may produce, and if they shall determine that the proposed road is necessary, they shall assess the damages to the person or persons through whose land it is to pass, and deliver their verdict in writing to the town superintendent.

§ 220. **Value of highway discontinued.**— If the necessity of such private road has been occasioned by the alteration or discontinuance of a public highway running through the lands belonging to a person through whose lands the private road is proposed to be opened, the jury shall take into consideration the value of the highway so discontinued, and the benefit resulting to the person by reason of such discontinuance, and shall deduct the same from the damages assessed for the opening and laying out of such private road.

§ 221. **Papers to be recorded in the town clerk's office.**— The town superintendent shall annex to such verdict the application, and their certificate that the road is laid out, and the same shall be filed and recorded in the town clerk's office.

§ 222. **Damages to be paid before opening the road.**— The damages assessed by the jury shall be paid by the party for whose benefit the road is laid out, before the road is opened or used; but if the jury shall certify that the necessity of such private road was occasioned by the alteration or discontinuance of a public highway, such damages shall be paid by the town and refunded to the applicant.

§ 223. **Fees of officers.**— Every juror, in proceedings for a private road, shall be entitled to receive for his service one dollar and fifty cents; and town superintendents their per diem compensation to be paid by the applicant.

§ 224. **Motion to confirm, vacate or modify.**— Within thirty days after the decision of the jury shall have been filed in the town clerk's office, the owner or occupant may apply to the county court of the county wherein such private road is situated, for an order confirming, vacating or modifying their decision; and such court may confirm, vacate or modify such decision as it shall deem just and legal. If the decision is vacated, the court may order another hearing of the matter before another jury, and remit the proceedings to the town superintendent of the same town for that pur-

pose. If no such motion is made, the decision of the jury shall be deemed final. The motion shall be brought on, upon the service of papers on the adverse party in the proceeding, according to the usual practice of the court in actions and special proceedings pending therein, and the decision of the county court shall be final, except that a new hearing may be had, as herein provided. If the final decision shall be adverse to the applicant, no other application for the same road shall be made within two years.

§ 225. **Costs of new hearing.**—If upon a new hearing, the damages assessed are increased, the applicant shall pay the costs and expenses thereof, otherwise the owner shall pay the same.

§ 226. **For what purpose private road may be used.**—Every such private road, when so laid out, shall be for the use of such applicant, his heirs and assigns; but not to be converted to any other use or purpose than that of a road; nor shall the occupant or owner of the land through which said road shall be laid out be permitted to use the same as a road, unless he shall have signified such intention to the jury who assessed the damages for laying out such road, and before such damages were assessed.

§ 227. **Highways or roads along division lines.**—Whenever a highway or private road shall be laid along the division line between lands of two or more persons, and wholly upon one side of the line, and the land upon both sides is cultivated or improved, the persons owning or occupying the lands adjoining such highway or road shall be paid for building and maintaining such additional fence as they may be required to build or maintain, by reason of the laying out and opening such highway or road; which damages shall be ascertained and determined in the same manner that other damages are ascertained and determined in the laying out of highways or private roads.

§ 228. **Adjournments.**—If any accident shall prevent any of the proceedings required by this chapter relating to the laying out, altering or discontinuing of a highway, or the laying out of a private road, to be done on the day assigned, the proceedings may be adjourned to some other day, and the town superintendent shall publicly announce such adjournment.

§ 229. **Widening roads; petition.**—When any part of a highway in any town of this state, not in an incorporated village or city, running between two or more villages or cities, has, because of the wearing away by a river or stream or any other natural cause, become narrower than the width required by statute, and is

dangerous to the users of such highway, twelve or more resident taxpayers of such town may present a petition to the county court of the county within which such town is situated. The petition shall describe the part of the highway proposed to be widened and state that such highway has become lessened in width by the action of a river or stream or other cause, that it is dangerous to the traveling public, that the widening and improvement of such highway is necessary for the public convenience and welfare, that the highway is an important leading road between two or more cities or villages, that the cost of such widening and improvement would exceed the sum of two thousand five hundred dollars and would be too burdensome on the town or towns otherwise liable therefor. Such petition shall be verified by at least three of the petitioners. On receipt of the petition the county court shall forthwith appoint three commissioners who shall not be named by any person interested in the proceedings and who shall be taxpayers of such county, but who shall not reside in the town or towns in which the highway, proposed to be widened and improved, is situated.

By an opinion of the Attorney-General under date of June 8, 1909, it was held that the day of election cannot be counted in making up the required number of days previous to an election upon which a petition regarding one of the questions to be voted upon must be filed but that a petition must be filed the full number of days required by law before and not counting election day.

§ 230. **Powers and duties of commissioners.**— The commissioners shall take the constitutional oath of office and appoint a time and place for a meeting to hear all persons interested in the proposed widening of the highway. They shall personally examine the part of the highway proposed to be widened, hear any reasons for or against such widening and ascertain the probable cost of the work. They shall have power to issue subpoenas, administer oaths and examine witnesses; they shall keep the minutes of their proceedings and reduce to writing all oral evidence given before them. They shall make duplicate certificates of their decision, filing one in the town clerk's office of the town in which the said highway is located, and the other, with such minutes and evidence, in the county clerk's office of the county where the highway is located. Such commissioners shall have the same power as to the assessment of damages caused by the widening of such highway as commissioners appointed under this article for the discontinuance,

alteration or laying out of a highway, and as to such assessment the same proceeding may be had for the confirmation, vacating or modifying of such decision, as provided in and by this article. The commissioners shall receive a compensation of five dollars for each day necessarily spent in the performance of their duties under this section, and the amount so paid to the said commissioners shall be a charge upon the town or towns in which the highway, proposed to be widened as aforesaid, is located.

§ 231. **Notice of decision to supervisors.**—If a majority of the commissioners shall determine that the proposed widening of the highway is necessary and that the cost thereof would be too burdensome for the town, exceeding in probable cost two thousand five hundred dollars, they shall notify the board of supervisors of the county of such decision. The board of supervisors shall thereupon cause one-half of the amount of the estimated cost to be raised by the county and paid to the supervisor of the town or towns in which that part of the highway proposed to be widened as aforesaid is located, and said supervisor shall apply the sum so received by him towards the payment of the cost of such widening. The balance of the expense shall be raised in the manner provided by law, by the town or towns in which that part of the highway proposed to be widened as aforesaid is located.

§ 232. **Widening, how constructed.**—The town superintendent shall construct such widening of the highway according to plans and specifications adopted by the district or county superintendent and approved by the town board of his town. The bills and expenses incurred in such work shall be audited by the town board and paid by the supervisor upon written order of the town superintendent, after the same shall have been approved by the town board, out of moneys raised for such purpose as provided in the preceding section.

§ 233. **Actions to compel widening; how affected by petition.**—In case an action might lie in any court of this state against the town superintendent of any town or towns to compel such superintendent to widen a part of a highway, the width of which has become less than that required by statute, or in case an action has been brought against such superintendent to compel him to widen a part of a highway, the width of which has become less than that required by statute, the presentation of a verified petition to the county court as provided for in section two hundred and twenty-nine shall prevent the commencing of any such action as aforesaid and cause such an action already commenced, to cease,

and shall be a bar to a recovery on the part of the plaintiff of a judgment against such superintendent in any such action instituted or prosecuted to judgment after the passage of this chapter.

§ 234. **Highways abandoned.**— Every highway that shall not have been opened and worked within six years from the time it shall have been dedicated to the use of the public, or laid out, shall cease to be a highway; but the period during which any action or proceeding shall have been, or shall be pending in regard to any such highway, shall form no part of such six years; and every highway that shall not have been traveled or used as a highway for six years, shall cease to be a highway, and every public right of way that shall not have been used for said periods shall be deemed abandoned as a right of way. The town superintendents shall file, and cause to be recorded in the town clerk's office of the town, a written description, signed by them, of each highway and public right of way so abandoned, and the same shall thereupon be discontinued. There may also be a qualified abandonment of a highway under the following conditions and for the following purposes, to wit: Where it appears to the town superintendents, at any time, that a highway has not become wholly disused as aforesaid, but that it has not for two years next previous thereto, been usually traveled along the greater part thereof, by more than two vehicles daily, in addition to pedestrians and persons on horseback, they shall file and cause to be recorded in the town clerk's office a certificate containing a description of that portion of the highway partly disused as aforesaid and declaring a qualified abandonment thereof. The effect of such qualified abandonment, with respect to the portion of said highway described in the certificate, shall be as follows: It shall no longer be worked at public expense; it shall not cease to be a highway for purposes of the public easement, by reason of such suspension of work thereon; no person shall impair its use as a highway nor obstruct it, except as hereinafter provided, but no person shall be required to keep any part of it in repair; wherever an owner or lessee of adjoining lands has the right to possession of other lands wholly or partly on the directly opposite side of the highway therefrom, he may construct and maintain across said highway a fence at each end of the area of highway which adjoins both of said opposite pieces of land, provided that each said cross-fence must have a gate in the middle thereof at least ten feet in length, which gate must at all times be kept unlocked and sup-

plied with a sufficient hasp or latch for keeping the same closed; all persons owning or using opposite lands, connected by such gates and fences, may use the portion of highway thus inclosed for pasturage; any traveler or other person who intentionally, or by wilful neglect, leaves such gate unlatched, shall be guilty of a misdemeanor, and the fact of leaving it unlatched shall be prima facie evidence of such intent or wilful neglect. Excepting as herein abrogated, all other general laws relating to highways shall apply to such partially abandoned highway.

Modes of abandonment. This section provides for abandonment of a highway, (1) where a highway has not been opened and worked within six years from the time it was dedicated to the public, or laid out by the town superintendent either with or without the proceedings provided for by this article; (2) where a highway has not been traveled or used as a highway for six years. Besides these two methods a highway may be discontinued and closed after proceedings had for such purpose as provided in this article.

§ 235. **Highways in lands acquired by the United States for fortification purposes deemed abandoned.**—When land sought to be acquired by the United States of America for the purpose of fortifications includes a highway or portion thereof, the condemnation proceedings may include such highways or portion thereof, and the people of the state of New York, any municipality, county or other party claiming an interest therein may be made a party defendant in such proceeding, and the interest of the state, county, municipality or other claimant be determined, and the award made therefor. Forthwith upon the acquisition by the United States of America of land which includes a highway or portion thereof, there shall be filed in the office of the town clerk of the town, and also in the office of the county clerk of the county, in which such land is located, certified copies of the record or transfer to the United States of such land, together with a map of such land, on which map such highway or portion thereof shall be indicated by metes and bounds, and thereupon such highway or portion thereof shall be deemed discontinued and abandoned for highway purposes, and if proceedings have been taken, pursuant to article six of this chapter for the improvement of such highway by state aid, all such proceedings, together with any appropriation made for the improvement of such highway or portion thereof, as indicated on such map, shall be deemed revoked, vacated and set aside.

§ 236. **Discontinuance of highway.**—Whenever the town superintendent of any town, in which during the past ten years there

has been expended the sum of three hundred thousand dollars, or more, for the purpose of macadamizing the highways of such town, shall determine that any portion of any highway or street, not within the limits of an incorporated village, which is the terminus of such street or highway, is unnecessary for highway purposes, and said town superintendent may, by an order to be duly entered in the town clerk's office, direct such highway to be discontinued and abandoned for public purposes. Provided, however, that no portion of such highway to be discontinued shall be greater than one thousand feet of the terminus thereof and that the owners of the land on both sides of such highway or street, for the distance it is proposed to discontinue the same, shall, by written petition to such town superintendent have requested the discontinuance thereof.

§ 237. **Description to be recorded.**—Immediately upon making and entering the order mentioned in section two hundred and thirty-six of this chapter, the said town superintendent shall cause a written description of that portion of the street or highway ordered to be discontinued to be filed and recorded in the office of the town clerk of the town in which the said street or highway is located, and when the same is duly recorded the said portion of the said street or highway shall thereupon be and become duly abandoned and discontinued for highway purposes.

§ 238. **Damages caused by discontinuance.**—Any person or corporation interested as owner or otherwise, in any lands and claiming any loss or damage, legal or equitable, by reason of the discontinuance, abandonment or closing of any street or highway, not within the limits of an incorporated village, under or pursuant to the provisions of the last two sections, may, upon ten days' written notice to the town superintendent of the town in which such lands are situated apply to the supreme court or to the county court of the county within which such lands are situated for the appointment of commissioners to estimate and determine such loss and damage, whereupon the court shall appoint three disinterested commissioners of appraisal to estimate and determine such damage, and the amount of compensation to be paid by said town therefor, who shall make their report thereupon to such court, and which report when finally confirmed shall be final and conclusive in respect thereto, and the legality and equity of any and all such claims shall be determined by such commissioners and by the court upon the hearing of their report. Any

loss or damage so estimated and determined shall be paid by said town as in case of judgment.

§ 239. *Papers, where filed.*—All applications, certificates, appointments and other papers relating to the laying out, altering or discontinuing of any highway shall be filed by the town superintendent as soon as a decision shall have been made thereon in the town clerk's office of the town.

§ 240. *Costs of motion.*—Costs of a motion to confirm, vacate or modify the report of commissioners appointed by the court to lay out, alter or discontinue a highway may be allowed in the discretion of the court not exceeding fifty dollars. On an uncontested motion to confirm the report of the commissioners so appointed, if said report is favorable to the applicant and confirmed by the court, costs may be allowed not exceeding fifty dollars sufficient to compensate the applicant's attorney for his services in the proceedings. Costs of any other motion in a proceeding in a court of record, authorized by this chapter, may be allowed in the discretion of the court not exceeding ten dollars.

From an opinion of the Attorney-General under date of October 24, 1910, it was held:

"It is evident that the use of moneys * * * moneys raised for the repair and improvement of highways, including state aid, are never available for the construction of new town roads and could not be legally diverted to any other use. The different funds are required to be kept separate by section 107 of the Highway Law, also by order of the State Highway Commission, and a surplus in one fund is not available for use for other work. I am, therefore, of the opinion that moneys known as state aid cannot be used in the building and construction of new town roads or for the payment of damages awarded to land owners in the laying out of a new highway, or for any other purpose except the repair and improvement of the highways of the town.

"In reply to that part of your enquiry as to how the town can procure the necessary money to build a highway, if it cannot be taken from the general fund for the repair and improvement of the highways, I beg to state that section 90 of the Highway Law requires the town superintendent to make estimates of the amounts that should be raised by tax in the town for the ensuing year, and by subdivision 4 thereof he can make an estimate and present it to the town board of the amount which he deems necessary should be raised for building a town highway that has been newly laid out. It is certainly a miscellaneous purpose not provided for in any other subdivision of that section. There is no limitation to the amount that can be raised for miscellaneous purposes except as it is controlled by the public necessities of the town.

"It is also a purpose that can only arise occasionally in any town and is not of annual occurrence like most of the other purposes mentioned in the act referred to.

"The estimates above mentioned are then laid before the town board and if it approves the several amounts are laid before the board of supervisors and raised in the same way as other highway taxes in the town, but if this method is not deemed expedient and if any town board should not feel that it was authorized to raise the amount as above outlined, a proposition can be submitted as provided by section 97 of the Highway Law to the voters of the town."

ARTICLE IX.

Bridges.

Section 250. When town or county expense.

- 251. Levy of tax upon county.
- 252. Penalty, and notice on bridge.
- 253. Offense.
- 254. Joint liabilities of towns and their joint contracts.
- 255. Refusal to repair.
- 256. Proceedings in court.
- 257. Supervisor to institute proceedings.
- 258. Duty of superintendents.
- 259. Report of town superintendents, and levy of tax.
- 260. Appeals.
- 261. Power of court on appeal.
- 262. Refusal to repair bridges.
- 263. Resolution of board of supervisors for abolition of toll bridges.
- 264. Investigation by the state commission of highways.
- 265. Acquisition by attorney-general.
- 266. Payment of expense of acquisition.
- 267. Maintenance of bridge.

§ 250. **When town or county expense.**—The towns of this state, except as otherwise herein provided, shall be liable to pay the expenses for the construction and repair of its public free bridges constructed over streams or other waters within their bounds, and their just and equitable share of such expenses when so constructed over streams or other waters upon their boundaries, except between the counties of Westchester and New York; and when such bridges are constructed over streams or other waters forming the boundary line of towns, either in the same or adjoining counties, such towns shall be jointly liable to pay such expenses. When such bridges are constructed over streams or other waters forming the boundary line between a city of the third class and a town, such city and town shall be liable each to pay its just and equitable share of the expenses for the construction, maintenance and repair of such bridges. Except as otherwise provided by law, a city of the third class shall be deemed a town

for the purposes of this article. Each of the counties of this state shall also be liable to pay for the construction, care, maintenance, preservation and repair of public bridges, lawfully constructed over streams or other waters forming its boundary line, not less than one-sixth part of the expenses of such construction, care, maintenance, preservation and repair.

§ 251. **Levy of tax upon county.**— Each supervisor shall present to the board of supervisors of his county at its annual session a statement specifying the amount paid during the preceding year ending on the thirty-first of October for the construction, care, maintenance, preservation and repair of public bridges over streams or other waters forming the boundary of such county. The board of supervisors shall levy upon the taxable property of the county a sum sufficient to pay its proportion of such expense, and the same when collected shall be paid to the supervisor of such town to be applied by him on the order of the town superintendent after audit as provided in this chapter, toward the payment of such expense.

§ 252. **Penalty, and notice on bridge.**— The town superintendent may fix and prescribe a penalty, not less than one or more than five dollars, for riding or driving faster than a walk on any bridge in his town whose chord is not less than twenty-five feet in length, and put up and maintain in a conspicuous place, at each end of the bridge, a notice in large characters, stating each penalty incurred.

§ 253. **Offense.**— Whoever shall ride or drive faster than a walk over any bridge, upon which notice shall have been placed, and shall then be, shall forfeit for every offense, the amount fixed by such town superintendent, and specified in the notice.

§ 254. **Joint liabilities of towns and their joint contracts.**— Whenever any two or more towns shall be liable to make or maintain any bridge or bridges, the same shall be built and maintained at the joint expense of such towns, without reference to town lines, except where the board of supervisors has otherwise apportioned such expense as provided in section ninety-seven. The town superintendents of all the towns, or of one or more of such towns, the others refusing to act, may, when directed by their respective town boards, enter into a joint contract for making and repairing such bridges.

§ 255. **Refusal to repair.**— If the town board of either of such towns, after notice in writing from the town board of any other of such towns, given by the town clerk thereof, shall not within

twenty days give their consent in writing to build or repair any such bridge, and shall not within a reasonable time thereafter direct, by resolution, the same to be done, the town board giving such notice may direct the town superintendent to make or repair such bridge, and then maintain an action in the name of the town, against the town which neglects or refuses to join in such making or repairing, and in such action, the plaintiffs shall be entitled to recover so much from the defendant, as the town would be liable to contribute to the same, together with costs and interest.

§ 256. **Proceedings in court.**—Whenever any adjoining towns shall be liable to make or maintain any bridge over any streams dividing such towns, whether in the same or different counties, three freeholders in either of such towns may, by petition signed by them, apply to the town board in each of such towns, to build, rebuild or repair such bridges, and if such town boards refuse to build, rebuild or repair such bridge within a reasonable time, either for want of funds or any other cause, such freeholders, upon affidavit and notice of motion, a copy of which shall be served on each supervisor at least eight days before the hearing, may apply to the supreme court at a special term thereof, to be held in the judicial district in which such bridge or any part thereof shall be located, for an order requiring such town boards to direct the town superintendents to build, rebuild or repair such bridge, and the court upon such motion may, in doubtful cases, refer the case to some disinterested person to ascertain the requisite facts in relation thereto, and to report the evidence thereof to the court. Upon the coming in of the report, in case of such reference, or upon or after the hearing of the motion, in case no reference shall be ordered, the court shall make an order thereon as the justice of the case shall require. If the motion be granted in whole or in part, whereby funds shall be needed to carry the order into effect, such court shall specify the amount of money required for that purpose, and how much thereof shall be raised in each town.

§ 257. **Supervisor to institute proceedings.**—The supervisor of any such town shall, when directed by the town board, institute and prosecute proceedings under this chapter, in the name of the town, to compel the town board of such adjoining town or towns to cause the town superintendents thereof to join in the building, rebuilding or repair of any such bridge, in like manner as freeholders are thereby authorized.

§ 258. **Duty of superintendents.**— The order for building, rebuilding or repairing a bridge being made, and a copy thereof being served on the town superintendent of such adjoining towns respectively the town superintendent of such towns shall forthwith meet and cause such bridge to be built, rebuilt or repaired in accordance with plans and specifications prepared or approved by the district or county superintendent, out of any funds in the hands of the supervisors of such towns applicable thereto; if an inadequate amount of such funds are on hand, the town boards of such towns shall direct the town superintendents thereof to build, rebuild or repair such bridge, and the same shall be done upon credit, or in part for cash or in part upon credit according to the exigency of the case; and such town boards shall direct the superintendents to enter into a contract, to be approved by such town boards, for building, rebuilding or repairing such bridge pledging the credit of each town for the payment of its appropriate share so far as the same shall be upon credit.

§ 259. **Report of town superintendents, and levy of tax.**— The town superintendent of each town shall make a full and verified report of their proceedings in the premises including an accurate account of what has been done in respect to such bridge, and shall attach thereto a copy of the order granted by the supreme court. Such report, account and order shall be certified by the town board and delivered to the supervisor and be presented by him to the board of supervisors of his county. The board of supervisors at their annual meeting shall levy a tax upon each of such towns, when in the same county, and upon the appropriate towns when in different counties, for its share of the costs of building, rebuilding and repairing such bridge, after deducting all payments actually made by the supervisor upon the written order of the town superintendent. Such tax, including all payments, shall in no case exceed the amount specified in the order of the supreme court.

§ 260. **Appeals.**— Either party aggrieved by the granting or refusing to grant such order by the court at special term, may appeal from such decision to the appellate division of the supreme court for the review of the decision. The appellate division may alter, modify or reverse the order, with or without costs.

§ 261. **Power of court on appeal.**— The special term may grant or refuse costs as upon a motion, including also witnesses' fees, referees' fees and disbursements. The appeal provided for in the last preceding section shall conform to the practice of the

supreme court, in case of appeal from an order of a special term to the appellate division.

§ 262. **Refusal to repair bridges.**—Whenever any such bridge shall have been or shall be so out of repair as to render it unsafe for travelers to pass over the same, or whenever any such bridge shall have fallen down, or been swept away by a freshet or otherwise, if the town superintendent of the adjoining town or towns, after reasonable notice of such condition of the bridge, have neglected or refused, or shall neglect or refuse to repair or rebuild it, then whatever funds have been or shall be necessarily or reasonably laid out or expended in repairing such bridge or in rebuilding the same, by any person or corporation, shall be a charge on such adjoining town or towns, each being liable for its just proportion; and the person or corporation who has made such expenditure, or shall make such expenditures, may apply to the supreme court, at a special term, for an order requiring such towns severally to reimburse such expenditures, which application shall be made upon papers to be served upon the town superintendents of such towns at least eight days prior thereto; and the court may grant an order requiring each adjoining town or towns to pay its just proportion of the expenditure, specifying the same; and the town superintendent of each of such towns shall forthwith serve a copy of such order upon the supervisor of each of their towns, who shall present the same to the board of supervisors, at their next annual meeting. The board of supervisors shall raise the amount charged upon each town by the order, and cause the same to be collected and paid to such persons or corporation as incurred the expenditure. The order shall be appealable.

§ 263. **Resolution of board of supervisors for abolition of toll bridges.**—The board of supervisors of any county may, and upon the presentation of a petition signed by fifty per centum of the owners of real property and representing a majority of the assessed valuation of the town or city in which a toll bridge is wholly or partly situated must, except where such bridge extends between the state of New York and a foreign country, pass a resolution that public interest demands the abolition of such toll bridge situate wholly or partly within said county. In case of a toll bridge situated in two counties such resolution shall be a concurrent resolution passed by the boards of supervisors of the counties wherein said bridge is situated. Within ten days after the passage of such

resolution the clerk or clerks of the board or boards of supervisors shall transmit certified copies thereof to the state commission of highways. Before transmitting such certified copy or copies to the state commission of highways, the board or boards of supervisors shall investigate as to the value of such toll bridge and shall prepare an estimate of the probable cost of acquiring the same, and the clerk or clerks shall transmit such estimate, together with any data in relation to the value of such toll bridge which the board or boards of supervisors may secure, to the state commission of highways with the certified copy or copies of such resolution.

Added by L. 1909, ch. 146, and amended by L. 1910, ch. 569.

§ 264. **Investigation by the state commission of highways.**— The state commission of highways shall upon the receipt of such resolution or concurrent resolution, investigate and determine whether the bridge so sought to be abolished is of sufficient public importance to come within the provisions of this article, taking into account the use, location and value of such toll bridge for the purpose of common traffic and travel and shall also investigate as to the value of such toll bridge and from the estimate and data transmitted by the board or boards of supervisors, or from such other information as the commission may secure, prepare an estimate of the probable cost of acquiring such toll bridge. After such investigation such commission shall certify its approval or disapproval of such resolution. If it shall disapprove such resolution, it shall certify its reasons therefor to such board or boards of supervisors. If it shall approve such resolution it shall certify its approval thereof to the attorney-general, and shall transmit to him the estimate made by the commission of the probable cost of acquiring such toll bridge, together with any data the commission may have in its possession in relation to the value thereof.

Added by L. 1909, ch. 146, and amended by L. 1910, ch. 569.

§ 265. **Acquisition by Attorney-General.**— Upon the receipt of such certification of approval the attorney-general shall apply to the court, in the name of the people of the state, for the appointment of a commission to appraise the value of said toll bridge and the franchise thereof and proceed to acquire title to said toll bridge and its franchise rights in accordance with the provisions of the code of civil procedure for the condemnation of property for public purposes. When said commission shall have determined the value of such toll bridge, the attorney-general shall

certify such determination to the comptroller and to the board or boards of supervisors of the county or counties wherein such toll bridge is situated. After the receipt thereof, upon a majority vote of the board or boards of supervisors, they shall adopt a resolution approving the purchase of said toll bridge under the provisions of this article and providing for the payment of the county's share thereof and thereupon shall transmit a certified copy of such resolution to the state comptroller. The condemnation and purchase of toll bridges under the provisions of this article shall be taken up and carried forward in the order in which they are finally designated as determined by the date of the receipt in each case of the certified copy of the approval by the state commission of highways.

Added by L. 1909, ch. 146.

§ 266. **Payment of expense of acquisition.**— One-half of the expense incurred in the condemnation and acquirement of said toll bridge shall be paid by the state treasurer upon the warrant of the comptroller out of any specific appropriations made to carry on the provisions of this article, but no such payment shall be made until the county or counties in which said toll bridge is situate shall have complied with all the provisions hereof. One-half of the expenses thereof shall be a charge, in the first instance, upon the county or counties in which said toll bridge is situate, and the same shall be paid by the county treasurer upon the requisition of the comptroller, but the amount so paid shall be apportioned by the board of supervisors so that thirty-five per centum of such cost shall be a general county charge and fifteen per centum shall be a charge upon the town or towns or city or cities in which said toll bridge is wholly or partly located. In case a toll bridge is located in two counties the fifty per centum of the expense to be borne by the counties shall be apportioned between them on the basis of their assessed valuation and the fifteen per centum shall be apportioned by the board of supervisors upon the town or towns or city or cities in the same manner.

Added by L. 1909, ch. 146.

§ 267. **Maintenance of bridge.**— When a toll bridge shall have been acquired by the state under the provisions of this article it shall be maintained as a free bridge and the expense thereof shall be a charge upon the town or towns or city or cities within which it is situated. Upon the acquisition of any toll bridge as provided in this article, the board or boards of supervisors of the

county or counties in which said toll bridge is located shall upon notice of such acquisition from the comptroller, accept and maintain the same as a part of the highway system of said county or counties and such acceptance shall be deemed to have been formally taken at the expiration of twenty days from the notice of said acquisition by the state comptroller.

Added by L. 1909, ch. 146.

§ 268. **Use of toll bridge by public service corporations; conditions; powers of town board.**—After a bridge shall be acquired by the state under the provisions of this article, the same shall not be used by any railroad, telephone, gas, electric light, heat or power company or any other public service corporation, for any purpose except upon such terms and the payment of such rental as shall be determined by the town board of the town or towns and the common council of the city or cities within which it is situated. The money received therefor shall be divided equally between the localities. The provisions of this section, however, shall not affect any existing contract for the use of such bridge by any such corporation, except that the compensation provided for such use in such existing contract shall be paid to the localities as herein provided.

Added by L. 1910, ch. 569.

ARTICLE X.

Ferries.

Section 270. Licenses.

271. Undertaking.

272. Appendages for rope ferries.

273. Superintendent of public works may lease right of passage.

274. When schedules to be posted.

§ 270. **Licenses.**—The county court in each of the counties of this state or the city court of a city, may grant licenses for keeping ferries in their respective counties and cities, to such persons as the court may deem proper, for a term not exceeding five years. No license shall be granted to a person, other than the owner of the land through which that part of the highway adjoining to the ferry shall run, unless the owner is not a suitable person or shall neglect to apply after being served with eight days' written notice from such person of the time and place at which he will apply for such license, or having obtained such license, shall neglect to comply with the conditions of the license

or maintain the ferry. Every license shall be entered in the book of minutes of the court by the clerk; and a certified copy thereof shall be delivered to the person licensed. When the waters over which any ferry may be used shall divide two counties or cities, or a county and city, a license obtained in either of the counties or cities shall be sufficient to authorize transportation of persons, goods, wares and merchandise, to and from either side of such waters.

§ 271. **Undertaking.**—Every person applying for such license shall, before the same is granted, execute and file with the clerk of the court his undertaking with one or more sureties, approved by the court, to the effect that he will attend such ferry with sufficient and safe boats and other implements, and so many men to work the same as shall be necessary during the several hours in each day, and at such rates as the court shall direct.

§ 272. **Appendages for rope ferries.**—Any person licensed to keep a ferry may, with the written consent of the town superintendent of the town where such ferry may be, erect and maintain within the limits of the highway, at such point as shall be designated in such consent, a post or posts, with all necessary braces and appendages for a rope ferry.

§ 273. **Superintendent of public works may lease right of passage.**—The superintendent of public works, may, where ferries are now maintained at tide-water, lease the right of passage for foot passengers across state lands adjoining tide-water for a period not exceeding ten years, on such conditions as he may deem advantageous to the state.

§ 274. **When schedules to be posted.**—Every person licensed to operate or control any ferry in this state, or between this state and any other state, operating from or to a city of fifty thousand inhabitants or over, shall post in a conspicuous and accessible position outside and adjacent to each entrance to such ferry, and in at least four accessible places, in plain view of the passengers upon each of the boats used on such ferry, a schedule plainly printed in the English language of the rates of ferriage charges thereon, and authorized by law to be charged for ferriage over such ferry. If any such person shall fail to comply with the provisions of this section, or shall post a false schedule, he shall forfeit the sum of fifty dollars for each day's neglect or refusal to post such schedule or any of them, to be recovered by any person who shall sue therefor in any court of competent jurisdiction.

ARTICLE XI.

Motor Vehicles.

(*Entire article amended by L. 1910, ch. 374.*)

Section 280. Application of article.

281. Definitions.

282. Registration of motor vehicles; age of operator; fees, renewals.

283. Distinctive number; form of number plates.

284. Registration by manufacturers and dealers; reregistration.

285. Exemption of nonresident owners.

286. Signaling and other devices; signals; rules of the road.

287. Speed permitted.

288. Local ordinances prohibited.

289. *Registration of chauffeurs; renewals.

290. Punishment for violation; procedure.

291. Disposition of registration fees; fines and penalties.

292. Rates of toll on motor vehicles.

293. Acts repealed.

§ 280. **Application of article.**— Except as herein otherwise expressly provided, this article shall be exclusively controlling:

1. Upon the registration, numbering and regulation of motor vehicles, and the licensing and the regulation of chauffeurs;

2. On their use of the public highways, and

3. On the accessories used upon motor vehicles and their incidents and the speed of motor vehicles upon the public highways;

4. On the punishment for the violation of any of the provisions of this article.

§ 281. **Definitions.**— The term “motor vehicle” as used in this article, except where otherwise expressly provided, shall include all vehicles propelled by any power other than muscular power, except motor bicycles, motor cycles, traction engines, road rollers, fire wagons and engines, police patrol wagons, ambulances and such vehicles as run only upon rails or tracks. The term “local authorities” shall include all officers of counties, cities, boroughs, towns or villages, as well as all boards, committees and other public officials of such counties, cities, boroughs, towns or villages. The term “chauffeur” shall mean any person operating or driving a motor vehicle as an employee or for hire. The term “state” as used in this article, except where otherwise expressly provided, shall also include the territories and the federal districts of the United States. The term “owner” shall also include any person, firm, association or corporation

* So in original.

renting a motor vehicle or having the exclusive use thereof, under a lease or otherwise, for a period greater than thirty days. The term "public highway" shall include any highway, county road, state road, public street, avenue, alley, park, parkway or public place in any county, city, borough, town or village, except any speedway which may have been or may be expressly set apart by law for the exclusive use of horses and light carriages.

§ 282. **Registration of motor vehicles; age of operator; fees; renewals.**— 1. Registration by owners. Every owner of a motor vehicle which shall be operated or driven upon the public highways of this state shall, except as herein otherwise expressly provided, cause to be filed, by mail or otherwise, in the office of the secretary of state a verified application for registration on a blank to be furnished by the secretary of state for that purpose, containing: (a) A brief description of the motor vehicle to be registered, including the name of the manufacturer and factory number of such vehicle, the character and amount of the motive power stated in figures of horse power in accordance with the rating established by the Association of Licensed Automobile Manufacturers; (b) the name, residence, including county and business address, of the owner of such motor vehicle; (c) provided that, if such motor vehicle is used or to be used solely for commercial purposes, the applicant shall so certify.

2. Age of operator. No person shall operate or drive a motor vehicle who is under eighteen years of age, unless such person is accompanied by a duly licensed chauffeur or the owner of the motor vehicle being operated.

3. Registration book. Upon the receipt of an application for registration of a motor vehicle, as provided in this article, the secretary of state shall file such application in his office and register such motor vehicle or vehicles, with the name, residence and business address of the owner, manufacturer or dealer as the case may be, together with the facts stated in such application, in a book or index to be kept for the purpose, under the distinctive number assigned to such motor vehicle by the secretary of state, which book or index shall be open to public inspection during reasonable business hours.

4. Certificate of registration. Upon the filing of such application and the payment of the fee hereinafter provided, the secretary of state shall assign to such motor vehicle a distinctive number and, without expense to the applicant, issue and deliver to

the owner a certificate of registration, in such form as the secretary of state shall prescribe, and two number plates. In the event of the loss, mutilation or destruction of any certificate of registration, number plate, license or badge, the owner of a registered motor vehicle or manufacturer, or dealer, or chauffeur, as the case may be, may obtain from the secretary of state a duplicate thereof upon filing in the office of the secretary of state an affidavit showing such fact and the payment of a fee of one dollar.

5. Times for registration and reregistration. Registration applied for on or before August first, nineteen hundred and ten, shall take effect on that date and certificates issued on such application or under any application made prior to January thirty-first, nineteen hundred and eleven, shall expire on the latter date. The fees for such registration shall be one-half of the annual fees provided herein. Registration thereafter shall be renewed annually in the same manner and upon payment of the same annual fee as provided in this section for registration, to take effect on the first day of February, in each year beginning with such date in the year nineteen hundred and eleven; and the certificates of registration issued thereunder or issued between any such dates shall expire on the succeeding thirty-first day of January.

6. Registration fees. The following fees shall be paid to the secretary of state upon the registration or reregistration of a motor vehicle in accordance with the provisions of this article: five dollars upon the registration of a motor vehicle having a rating of twenty-five horse power or less; ten dollars upon the registration of a motor vehicle having a rating of more than twenty-five horse power and less than thirty-five horse power; fifteen dollars upon the registration of a motor vehicle having a rating of thirty-five horse power and less than fifty horse power; twenty-five dollars upon the registration of a motor vehicle having a rating of fifty horse power or more; provided that if a motor vehicle other than one used solely for commercial purposes shall have been licensed for four separate years hereunder and for which there shall have been paid the annual registration fees herein provided during said period, the annual registration fees thereafter shall be one-half the amount; and further provided that for motor vehicles which are used or to be used solely for commercial purposes, the fee for such registration shall be five dollars.

7. Fees in lieu of taxes. The registration fees imposed by this article upon motor vehicles, other than those of manufacturers and

dealers and those used solely for commercial purposes, shall be in lieu of all taxes, general or local, to which motor vehicles may be subject.

8. Sale and registration by vendee. Upon the sale or transfer of a motor vehicle registered in accordance with this section, the vendor shall immediately give notice thereof with the name and residence of the vendee to the secretary of state, and the vendee shall, within ten days after the date of such sale or transfer, notify the secretary of state thereof upon a blank furnished promptly by him for that purpose, stating the name and business address of the previous owner, if known, the number under which such motor vehicle is registered and the name, residence, including county and business address, of the vendee. Upon filing such statement duly verified such vendee shall pay to the secretary of state a fee of one dollar, and upon receipt of such statement and fee the secretary of state shall file such statement in his office and note upon the registration book or index such change in ownership.

9. Upon the sale of a motor vehicle by the manufacturer or dealer the vendee shall be allowed to operate the same upon the public highways for a period of fifteen days after taking possession thereof or until he shall have received his certificate of registration and number plates from the secretary of state, providing that during such period the motor vehicle shall have attached thereto, in accordance with the provisions hereof, a placard bearing the registration number of the dealer under which it might previously have been operated, and provided, further, that application for registration shall be made by mail or otherwise before such vehicle shall be so used.

§ 283. **Distinctive number; form of number plates.**—1. Distinctive number must be carried on motor vehicles. No person shall operate or drive a motor vehicle on the public highways of this state after the first day of August, nineteen hundred and ten, unless such vehicle shall have a distinctive number assigned to it by the secretary of state and a number plate with a number corresponding to that of the certificate of registration conspicuously displayed, one on the front and one on the rear of such vehicle, each securely fastened so as to prevent the same from swinging.

2. Number plates to be changed annually. Such number plates shall be of a distinctly different color each year, and there shall be at all times a marked contrast between the color of the number plates and that of the numerals or letters thereon.

3. Form of number plate. Such number plate shall be of metal, at least six inches wide and not less than fifteen inches in length, on which there shall be the initials "N. Y.," and there shall be the distinctive number assigned to the vehicle set forth in numerals four inches long, each stroke of which shall be at least five-eighths of an inch in width; provided that in the case of a motor vehicle registered by a manufacturer or dealer there shall be on such plate in addition to the foregoing the letter "M," each stroke of such letter to be at least four inches long and five-eighths of an inch in width. No vehicle shall display the number plates of more than one state at any time.

§ 284. **Registration by manufacturers and dealers; reregistration.** 1. Registration by manufacturers and dealers. Every person, firm, association or corporation manufacturing or dealing in motor vehicles may, instead of registering each motor vehicle so manufactured or dealt in, make a verified application upon a blank to be furnished by the secretary of state for a general distinctive number for all the motor vehicles owned or controlled by such manufacturer or dealer, such application to contain: (a) A brief description of each style or type of motor vehicle manufactured or dealt in by such manufacturer or dealer, including the character of the motor power, the amount of such motor power stated in figures of horse power in accordance with the rating established by the Association of Licensed Automobile Manufacturers; and (b) the name, residence, including county and business address, of such manufacturer or dealer. On the payment of the registration fee of fifteen dollars such application shall be filed and registered in the office of the secretary of state in the manner provided in section two hundred and eighty-two of this article. There shall thereupon be assigned and issued to such manufacturer or dealer a general distinctive number and without expense to the applicant issued and promptly delivered to such manufacturer or dealer a certificate of registration in such form as the secretary of state shall prescribe, and a number plate with a number corresponding to the number of such certificate of registration. Such number plate or a duplicate thereof shall be displayed by every motor vehicle of such manufacturer or dealer when the same is operated or driven on the public highways. Such manufacturer or dealer may obtain as many duplicates of such number plate as may be desired upon payment to the secretary of state of one dollar for each duplicate. Nothing in this subdivision shall be construed to

apply to a motor vehicle operated by a manufacturer or dealer for private use or for hire.

2. Reregistration annually. Such registration shall be renewed annually in the same manner and on the payment of the same fee as provided in this section for original registration, such renewal to take effect on the first day of February of each year. Provisions of subdivision five of section two hundred and eighty-two, relating to first registrations made under this article and duration of renewals, shall apply to registration under this section.

§ 285. **Exemption of nonresident owners.**—The provisions of the foregoing sections relative to registration and display of registration numbers shall not apply to a motor vehicle owned by a nonresident of this state, other than a foreign corporation doing business in this state, provided that the owner thereof shall have complied with the provisions of the law of the foreign country, state, territory or federal district of his residence relative to registration of motor vehicles and the display of registration numbers thereon, and shall conspicuously display his registration numbers as required thereby. The provisions of this section, however, shall be operative as to a motor vehicle owned by a nonresident of this state only to the extent that under the laws of the foreign country, state, territory or federal district of his residence like exemptions and privileges are granted to motor vehicles duly registered under the laws of and owned by residents of this state.

§ 286. **Signaling and other devices; signals; rules of the road.**—

1. Brakes, horns and lamps, signaling at crossings. Every motor vehicle, operated or driven upon the public highways of this state, shall be provided with adequate brakes in good working order and sufficient to control such vehicle at all times when the same is in use, and a suitable and adequate bell, horn or other device for signaling, and shall, during the period from one-half hour after sunset to one-half hour before sunrise, display at least two lighted lamps on the front and one on the rear of such vehicle, which shall also display a red light visible from the rear. The rays of such rear lamp shall shine upon the number plate carried on the rear of such vehicle in such manner as to render the numerals thereon visible for at least fifty feet in the direction from which the motor vehicle is proceeding. The light of the front lamps shall be visible at least two hundred feet in the direction in which the motor vehicle is proceeding. Every person operating or driving a motor vehicle on the public highways of this state

shall also, when approaching a cross road outside the limits of a city or incorporated village, slow down the speed of the same and shall sound his bell, horn or other device for signaling in such a manner as to give notice and warning of his approach.

2. Stopping on signal, and other regulations. A person operating or driving a motor vehicle shall, on signal by raising the hand, from a person riding, leading or driving a horse or horses or other draft animals, bring such motor vehicle immediately to a stop, and, if traveling in the opposite direction, remain stationary so long as may be reasonable to allow such horse or animal to pass, and, if traveling in the same direction, use reasonable caution in thereafter passing such horse or animal; provided that, in case such horse or animal appears badly frightened or the person operating such motor vehicle is so signaled to do, such person shall cause the motor of such vehicle to cease running so long as shall be reasonably necessary to prevent accident and insure the safety of others. In approaching or passing a car of a street railway which has been stopped to allow passengers to alight or embark, the operator of every motor vehicle shall slow down and if it be necessary for the safety of the public he shall bring said vehicle to a full stop. Upon approaching a pedestrian who is upon the traveled part of any highway and not upon a sidewalk, and upon approaching an intersecting highway or a curve or a corner in a highway where the operator's view is obstructed, every person operating a motor vehicle shall slow down and give a timely signal with his bell, horn or other device for signaling.

3. Rules of the road. Whenever a person operating a motor vehicle shall meet on a public highway any other person riding or driving a horse or horses or other draft animals or any other vehicle, the person so operating such motor vehicle shall seasonably turn the same to the right of the center of such highway so as to pass without interference. Any such person so operating a motor vehicle shall, on overtaking any such horse, draft animal or other vehicle, pass on the left side thereof, and the rider or driver of such horse, draft animal or other vehicle shall, as soon as practicable, turn to the right so as to allow free passage on the left. Any such person so operating a motor vehicle shall, at the intersection of public highways, keep to the right of the intersection of the centers of such highways when turning to the right and pass to the right of such intersection when turning to the left.

§ 287. **Speed permitted.**—Every person operating a motor vehicle on the public highway of this state shall drive the same in a careful and prudent manner and at a rate of speed so as not to endanger the property of another or the life or limb of any person; provided, that a rate of speed in excess of thirty miles an hour for a distance of one-fourth of a mile shall be presumptive evidence of driving at a rate of speed which is not careful and prudent.

§ 288. **Local ordinances prohibited.**—Except as herein otherwise provided, local authorities shall have no power to pass, enforce or maintain any ordinance, rule or regulation requiring from any owner or chauffeur to whom this article is applicable any tax, fee, license or permit for the use of the public highways, or excluding any such owner or chauffeur from the free use of such public highways, excepting such driveways, speedway or road as has been or may be expressly set apart by law for the exclusive use of horses and light carriages or in any other way respecting motor vehicles or their speed upon or use of the public highways; and no ordinance, rule or regulation contrary to or in anywise inconsistent with the provisions of this article, now in force or hereafter enacted, shall have any effect; provided, however, that the power given to local authorities to regulate vehicles offered to the public for hire, and processions, assemblages or parades in the streets or public places, and all ordinances, rules and regulations which may have been or which may be enacted in pursuance of such powers shall remain in full force and effect; and provided, further, that local authorities may set aside for a given time a specified public highway for speed contests or races, to be conducted under proper restrictions for the safety of the public; and provided, further, that local authorities may exclude motor vehicles from any cemetery or grounds used for the burial of the dead, and may by general rule, ordinance or regulation exclude motor vehicles used solely for commercial purposes from any park or part of a park system where such general rule, ordinance or regulation is applicable equally and generally to all other vehicles used for the same purposes, and provided further that nothing in this article contained shall impair the validity or effect of any ordinances, regulating the speed of motor vehicles, or of any traffic regulations with regard to the operation of motor vehicles, heretofore or hereafter made, adopted or prescribed pursuant to law in

any city of the first class; provided, further, that the local authorities of other cities and incorporated villages may limit by ordinance, rule or regulation the speed of motor vehicles on the public highways, such speed limitation not to be in any case less than one mile in four minutes, and the maintenance of a greater rate of speed for one-eighth of a mile shall be presumptive evidence of driving at a rate of speed which is not careful and prudent, and on further condition that each city or village shall have placed conspicuously on each main public highway where the city or village line crosses the same and on every main highway where the rate of speed changes, signs of sufficient size to be easily readable by a person using the highway, bearing the word, "City of ————" or "Incorporated village of ————," "Slow down to — miles" (the rate being inserted), and also an arrow pointing in the direction where the speed is to be reduced or changed, and also on further condition that such ordinance, rule or regulation shall fix the punishment for violation thereof, which punishment shall, during the existence of the ordinance, rule or regulation, supersede those specified in subdivision two of section two hundred and ninety of this chapter but, except in cities of the first class, shall not exceed the same. Official copies of all local ordinances passed under the provisions of this subdivision shall be filed with the secretary of state at least thirty days before they shall respectively take effect and all such local ordinances shall be printed in pamphlet form and issued at regular intervals by the secretary of state.

§ 289. **License of chauffeurs; renewals.**—1. License of chauffeurs. Application for license to operate motor vehicles, as a chauffeur, may be made, by mail or otherwise, to the secretary of state or his duly authorized agent upon blanks prepared under his authority. The secretary of state shall appoint examiners and cause examinations to be held at convenient points throughout the state as often as may be necessary. Such applications shall be accompanied by a photograph of the applicant in such numbers and forms as the secretary of state shall prescribe, said photograph to be taken within thirty days prior to the filing of said application and to be accompanied by the fee provided herein. Before such a license is granted the applicant shall pass such examination as to his qualifications as the secretary of state shall require, and no license shall be issued until the secretary of state or his authorized agent is satisfied that the applicant is a proper person to receive it.

No chauffeur's license shall be issued to any person under eighteen years of age. To each person shall be assigned some distinguishing number or mark, and the license issued shall be in such form as the secretary of state shall determine; it may contain special restrictions and limitations concerning the type of motor power, horse power, design and other features of the motor vehicles which the licensee may operate; it shall contain the distinguishing number or mark assigned to the licensee, his name, place of residence and address, a brief description of the licensee for the purpose of identification and the photograph of the licensee. Such distinctive number or mark shall be of a distinctly different color each year and in any year shall be of the same color as that of the number plates issued for that year. The secretary of state shall furnish to every chauffeur so licensed a suitable metal badge with the distinguishing number or mark assigned to him thereon without extra charge therefor. This badge shall thereafter be worn by such chauffeur pinned upon his clothing in a conspicuous place, at all times while he is operating or driving a motor vehicle upon the public highways. Said badge shall be valid only during the term of the license of the chauffeur to whom it is issued as aforesaid. Every person licensed to operate motor vehicles as aforesaid shall indorse his usual signature on the margin of the license, in the space provided for the purpose, immediately upon receipt of said license, and such license shall not be valid until so indorsed. Every application for license filed under the provisions of this section shall be sworn to and shall be accompanied by a fee of five dollars. The license hereunder granted on or before August first, nineteen hundred and ten, shall take effect on that date, and licenses issued prior to January thirty-first, nineteen hundred and eleven, shall expire on that date. The fees for such licenses shall be one-half of the annual fees provided herein.

2. Chauffeurs' licensed registration book. Upon the receipt of such an application, the secretary of state shall thereupon file the same in his office, and register the applicant in a book or index which shall be kept in the same manner as the book or index for the registration of motor vehicles, and when the applicant shall have passed the examination provided for in the preceding section, the number or mark assigned to such applicant together with the fact that such applicant has passed such examination shall be noted in said book or index.

3. Unauthorized possession or use of license or badge. No chauffeur having been licensed as herein provided shall voluntarily

permit any other person to possess or use his license or badge, nor shall any person while operating or driving a motor vehicle use or possess any license or badge belonging to another person, or a fictitious license or badge.

4. Unlicensed chauffeurs cannot drive motor vehicle. No person shall operate or drive a motor vehicle as a chauffeur upon a public highway of this state after the first day of August, nineteen hundred and ten, unless such person shall have complied in all respects with the requirements of this section; provided, however, that a nonresident chauffeur, who has registered under provisions of law of the foreign country, state, territory or federal district of his residence substantially equivalent to the provisions of this section, shall be exempt from license under this section; and provided, further, he shall wear the badge assigned to him in the foreign country, state, territory or federal district of his residence in the manner provided in this section.

5. Renewal. Such license shall be renewed annually upon the payment of the same fee as provided in this section for the original license, such renewal to take effect on the first day of February of each year.

§ 290. **Punishment for violation; procedure.**— 1. The violation of any of the provisions of sections two hundred and eighty-two, two hundred and eighty-three and two hundred and eighty-four of this article shall constitute a misdemeanor punishable by a fine not exceeding fifty dollars.

2. The violation of any of the provisions of section two hundred and eighty-seven of this article shall constitute a misdemeanor punishable by a fine not exceeding one hundred dollars.

3. Punishment for operating motor vehicle while in an intoxicated condition; for going away without stopping after accident and making himself known. Whoever operates a motor vehicle while in an intoxicated condition shall be guilty of a misdemeanor. Any person operating a motor vehicle who, knowing that injury has been caused to a person or property, due to the culpability of the said operator, or to accident, leaves the place of said injury or accident, without stopping and giving his name, residence, including street and street number, and operator's license number to the injured party, or to a police officer, or in case no police officer is in the vicinity of the place of said injury or accident, then reporting the same to the nearest police station, or judicial officer, shall be guilty of a felony punishable by a fine of not more than five

hundred dollars or by imprisonment for a term not exceeding two years, or by both such fine and imprisonment; and if any person be convicted a second time of either of the foregoing offenses, he shall be guilty of a felony punishable by imprisonment for a term of not less than one year and not more than five years. A conviction of a violation of this subdivision shall be reported forthwith by the trial court or the clerk thereof to the secretary of state, who shall upon recommendation of the trial court suspend the license of the person so convicted or if he be an owner the certificate of registration of his motor vehicle and, if no appeal therefrom be taken, or if an appeal duly taken be dismissed, or the judgment affirmed, and upon notice thereof by said clerk, the secretary of state shall revoke such license or in the case of an owner the certificate of registration of his motor vehicle, and shall order the license or certificate of registration delivered to the secretary of state, and shall not reissue to him said license or certificate of registration or any other license or certificate of registration unless the secretary of state in his discretion, after an investigation or upon a hearing, decides to reissue or issue such license or certificate.

4. Any chauffeur operating a motor vehicle while his license is suspended or revoked shall be guilty of a misdemeanor.

5. Any person who operates any motor vehicle while a certificate of registration of motor vehicle issued to him is suspended or revoked shall be guilty of a misdemeanor.

6. Upon a third or subsequent conviction of a chauffeur for a violation of the provisions of section two hundred and eighty-seven, or an ordinance, rule or regulation regulating speed of motor vehicles under section two hundred and eighty-eight, the secretary of state, upon the recommendation of the trial court, shall forthwith revoke the license of the person so convicted and no new license shall be issued to such person for at least six months after the date of such conviction nor thereafter except in the discretion of the said secretary of state.

7. The violation of any of the provisions of section two hundred and eighty-nine of this article shall constitute a misdemeanor punishable by a fine not exceeding fifty dollars.

8. Any person making a false statement in the verified application for registration shall be guilty of a misdemeanor punishable by a fine of not exceeding fifty dollars.

9. Any person violating any of the provisions of any section of this article for which violation no punishment has been speci-

fied, shall be guilty of a misdemeanor punishable by a fine of not exceeding twenty-five dollars.

10. Certifying conviction to the secretary of state. Upon the conviction of any person for a violation of any of the provisions of this article the trial court or the clerk thereof shall immediately certify the facts of the case, including the name and address of the offender, the judgment of the court and the sentence imposed, to the secretary of state, who shall enter the same either in the book or index of registered motor vehicles or in the book or index of registered chauffeurs, as the case may be, opposite the name of the person so convicted, and in the case of any other person, in a book or index of offenders to be kept for such purpose. If any such conviction shall be reversed upon appeal therefrom, the person whose conviction has been so reversed may serve on the secretary of state a certified copy of the order of reversal, whereupon the secretary of state shall enter the same in the proper book or index in connection with the record of such conviction.

11. Release from custody, bail, et cetera. In case any person shall be taken into custody charged with a violation of any of the provisions of this article, he shall forthwith be taken before the nearest magistrate, captain, lieutenant, clerk of the court or acting lieutenant who shall have the power of a magistrate and be entitled to an immediate hearing or admission to bail, and if such hearing cannot then be had, be released from custody on giving a bond or undertaking, executed by a fidelity or surety company authorized to do business in this state, or other bail in the form provided by section five hundred and sixty-eight of the code of criminal procedure, such bond or undertaking to be in an amount not exceeding one hundred dollars, if the charge be for a misdemeanor, for his appearance to answer for such violation at such time and place as shall then be indicated. In case a person is taken into custody charged with being guilty of a felony in violation of any of the provisions of this article, such bond or undertaking shall be in an amount not less than one thousand dollars. On giving his personal undertaking to appear to answer any such violation at such time and place as shall then be indicated, secured by the deposit of a sum of money equal to the amount of such bond or undertaking, or in lieu thereof, in case the person taken into custody is the owner, by leaving the motor vehicle, or in case such person taken into custody is not the owner, by leaving the motor

vehicle as herein provided with a written consent given at the time by the owner who must be present, with such officer; or in case such person is taken into custody because of a violation of any of the provisions of this article other than on a charge of violating any of the provisions of subdivision three of section two hundred and ninety and such officer is not accessible, be forthwith released from custody on giving his name and address to the person making the arrest and depositing with such arresting officer the sum of one hundred dollars, or in lieu thereof, in case the person taken into custody is the owner, by leaving the motor vehicle, or in case such person taken into custody is not the owner, by leaving the motor vehicle with a written consent at the time by the owner who must be present; provided that, in any such case, the officer making the arrest shall give a receipt in writing for such sum or vehicle deposited and notify such person to appear before the most accessible magistrate, describing him, and specifying the place and hour. In case such bond or undertaking shall not be given or deposit made by the owner or other person taken into custody the provisions of law in reference to bail, in cases of misdemeanor, shall apply. Where the charge is a violation of subdivision three of section two hundred and ninety of this article, the provisions of law in reference to bail in cases of a misdemeanor or a felony as the case may be shall apply exclusively.

12. Holding defendant to answer where magistrate has not jurisdiction to try offender; admitting to bail. In case the magistrate before whom any person shall be taken, charged with the violation of any provision of this article, shall not have jurisdiction to try the defendant, but shall hold the defendant to answer as provided by section two hundred and eight of the code of criminal procedure, he shall admit such defendant to bail upon his giving a surety company's bond or undertaking to appear to answer for such violation at such time and place as shall then be indicated, or upon his giving a written undertaking in the form provided in section five hundred and sixty-eight of the code of criminal procedure in a sum not exceeding one hundred dollars, except that in a case where the defendant is charged with a violation of any of the provisions of subdivision three of section two hundred and ninety of this article, the provisions of law in reference to bail in cases of a misdemeanor or a felony as the case may be shall apply exclusively.

13. Disposition and return of bail. Such bail as may be deposited as herein provided shall be held by the officer accepting the

same or the clerk of the court. Upon the person who has been taken into custody and given security or bail for his appearance surrendering himself for trial and upon the conclusion of such trial the court shall issue to the defendant an order upon the magistrate or clerk of the court or other officer authorized to accept bail to return or deliver back said security or bail as was given.

14. A conviction of violation of any provision of this article shall not be a bar to a prosecution for an assault or for a homicide committed by any person in operating a motor vehicle.

§ 291. Disposition of registration fees; fines and penalties.—

1. The registration fees provided herein shall be paid by the secretary of state into the state treasury.

2. Disposition of fines and penalties. On the first day of each month or within ten days thereafter all fines, penalties or forfeitures collected for violations of any of the provisions of this article or of any act in relation to the use of the public highways by motor vehicles now in force or hereafter enacted, under the sentence or judgment of any court, judge, magistrate or other judicial officer having jurisdiction in the premises, shall be paid over by such court, judge, magistrate or other judicial officer to the treasurer of the state, with a statement accompanying the same, setting forth the action or proceeding in which such moneys were collected, the name and residence of the defendant, the nature of the offense, and the fine, penalty, sentence or judgment imposed. On the first day of each month or within ten days thereafter, every judge, magistrate or clerk of a court having jurisdiction of the violation of any of the provisions of this article, shall make and forward to the treasurer of the state, a verified report of all criminal actions or proceedings instituted or tried before him or it during the preceding calendar month for violation of any of the provisions of this article, which report shall set forth the name and address of the defendants, the nature of the offenses and the fines and penalties collected or imposed by such court, judge, magistrate or judicial officer, which report shall be open to inspection during reasonable business hours to any citizen of the state. On or before the first day of February of each year, the treasurer shall transmit to each branch of the legislature a statement showing the amount of the receipts under this article during the preceding fiscal year paid into the state treasury.

3. All moneys paid into the state treasury pursuant to this article shall be appropriated and used for the maintenance and

repair of the improved roads of the state, under the direction of the state commission of highways.

§ 292. **Rates of toll on motor vehicles.**—Where a different rate is not otherwise prescribed or permitted by law, any person or corporation maintaining a plankroad, turnpike road or bridge and authorized, or which shall be hereafter authorized, to receive tolls for the passage of vehicles over the same, may charge and receive for each and every motor vehicle propelled by any power other than animal power, passing over the same, a toll rate not greater than the maximum rate allowed by law to be charged and received for the passage of a vehicle drawn over such road or bridge by two animals, provided that for such motor vehicles designed to carry only two persons the rate of toll charged or received shall not exceed the maximum rate allowed by law to be charged and received for the passage of a vehicle drawn over such road or bridge, without a load, by a single animal.

§ 293. **Acts repealed.**—All acts or parts of acts inconsistent with this article or contrary thereto are hereby expressly repealed.

ARTICLE XII.

Miscellaneous Provisions.

- Section 320. Construction or improvement of highways by county and town.
 321. When commissioners do not act.
 322. Intemperate drivers not to be engaged.
 323. Drivers, when to be discharged.
 324. Leaving horses without being tied.
 325. Owners of certain carriages liable for acts of drivers.
 326. Term "carriage" defined.
 327. Entitled to free use of highways.
 328. Depositing ashes, stones, sticks, etc., upon the highways.
 329. Steam traction engines on highways.
 330. Injuries to highways.
 331. When town not liable for damages.
 332. Law of the road.
 333. Trees, to whom they belong.
 334. Injuring fruit or shade trees.
 335. Penalty for falling trees.
 336. Fallen trees to be removed.
 337. Penalties, how recovered.
 338. Acquisition of plank roads.
 339. Borrowing money; bonds.
 340. Raising money to pay bonds and interest.
 341. Roads so acquired to be part of highway system.
 342. When road is in two or more counties.
 343. Albany post road; railroad tracks thereon.

§ 320. **Construction or improvement of highways by county and town.**—The board of supervisors of a county may provide for the construction or improvement of a highway or section thereof in one or more towns of the county at the joint expense of the county and town, as provided in this section. The board may, by resolution, direct the district or county superintendent to examine such highway or section thereof, and if the board considers such highway or section thereof to be of sufficient importance to be constructed or improved as provided herein, it shall direct such district or county superintendent to prepare or cause to be prepared maps, plans, specifications and estimates therefor. Upon the completion of such preliminary maps, plans, specifications and estimates they shall be submitted to the board of supervisors for approval, and such board may thereupon adopt a resolution providing for the construction or improvement of such highway in accordance with such plans, specifications and estimates. The board of supervisors shall award contracts for the construction or improvement of such highway and the provisions of section one hundred and thirty of this chapter shall apply so far as may be to such contracts. Such contract may be awarded to the town board of any town in which such highway or section thereof is located and the provisions of section one hundred and thirty-one of this chapter shall apply thereto so far as may be. The board of supervisors shall determine the portion of the cost of the construction or improvement of such highway to be borne by the county and the portion to be borne by the town or towns in which such highway is located. The amount so determined to be borne by the county shall be levied and collected as a county charge and paid into the county treasury. The amount to be borne by the town or towns in which the highway is located shall be levied and collected as a town charge and when collected shall be paid into the county treasury. The amount so paid by the town shall not be considered in determining the minimum amount to be levied and collected in each year for the repair and improvement of highways as provided in section ninety-four of this chapter nor shall such amount be considered in determining the amount to be paid by the state to the town for the repair and improvement of the highways therein. The resolution of the board of supervisors providing for the construction or improvement of such highway may authorize the county treasurer of the county or the supervisors of the respective towns to borrow money on the faith and credit of the county or of such towns to pay the portion of the cost of such construction or

improvement to be borne respectively by the county or such town or towns. Such resolution may also provide for the issue and sale of such bonds and shall conform so far as may be with the provisions of this chapter relating to a resolution authorizing a town to borrow money for highway purposes.

The construction or improvement authorized by such resolutions shall be done under the supervision and direction of the district or county superintendent. Payments therefor shall be made from time to time by the county treasurer upon the certificate of the district or county superintendent indorsed by the chairman of the board of supervisors. Such highways, when completed and accepted by the board of supervisors, shall be thereafter repaired and maintained at the sole expense of the towns in which they are located, unless the board of supervisors shall apportion a share of the expense thereof upon the county.

§ 321. **When commissioners do not act.**—When a commissioner or other officer appointed by a court under this chapter shall neglect or be prevented from serving, the courts which appointed him shall appoint another in his place.

§ 322. **Intemperate drivers not to be engaged.**—No person owning any carriage for the conveyance of passengers, running or traveling upon any highway or road, shall employ, or continue in employment, any person to drive such carriage who is addicted to drunkenness, or to the excessive use of spirituous liquors; and if any such owner shall violate the provisions of this section, he shall forfeit at the rate of five dollars per day, for all the time during which he shall have kept any such driver in his employment.

§ 323. **Drivers, when to be discharged.**—If any driver, while actually employed in driving any such carriage, shall be guilty of intoxication, to such a degree as to endanger the safety of the passengers in the carriage, the owner of such carriage shall, on receiving written notice of the fact, signed by any one of said passengers, and certified by him on oath, forthwith discharge such driver from his employment; and every such owner, who shall retain, or have in his service within six months after the receipt of such notice, any driver who shall have been so intoxicated, shall forfeit at the rate of five dollars per day, for all the time during which he shall keep any such driver in his employment after receiving such notice.

§ 324. **Leaving horses without being tied.**—No driver of any carriage used for the purpose of conveying passengers for hire shall

leave the horse attached thereto, while passengers remain in the same, without first making such horses fast with a sufficient halter, rope or chain, or by placing the lines in the hands of some other person so as to prevent their running; and if any such driver shall offend against the provisions of this section, he shall forfeit the sum of twenty dollars.

§ 325. Owners of certain carriages liable for acts of drivers.—The owners of every carriage running or traveling upon any turnpike, road or highway, for the conveyance of passengers, shall be liable jointly and severally, to the party injured, for all injuries and damages done by any person in the employment of such owners, as a driver, while driving such carriage, whether the act occasioning such injury or damage be wilful or negligent, or otherwise, in the same manner as such driver would be liable.

§ 326. Term "carriage" defined.—The term "carriage" as used in this article shall be construed to include stage coaches, wagons, carts, sleighs, sleds, automobiles or motor vehicles, and every other carriage or vehicle used for the transportation of persons and goods, or either of them, and bicycles, tricycles and all other vehicles propelled by manumotive or pedomotive power, or by electricity, steam, gasoline or other source of energy.

§ 327. Entitled to free use of highways.—The commissioners, trustees or other authorities having charge or control of any highway, public street, park, parkway, driveway, or place, shall have no power or authority to pass, enforce or maintain any ordinance, rule or regulation by which any person using a bicycle or tricycle shall be excluded or prohibited from the free use of any highway, public street, avenue, roadway, driveway, parkway, park, or place, at any time when the same is open to the free use of persons having and using other pleasure carriages, except upon such driveway, speedway or road as has been or may be expressly set apart by law for the exclusive use of horses and light carriages. But nothing herein shall prevent the passage, enforcement or maintenance of any regulation, ordinance or rule, regulating the use of bicycles or tricycles in highways, public streets, driveways, parks, parkways, and places, or the regulation of the speed of carriages, vehicles or engines, in public parks and upon parkways and driveways in the city of New York, under the exclusive jurisdiction and control of the department of parks of said city, nor prevent any such commissioners, trustees or other authorities in any other city from regulating the speed of any vehicles herein described in such manner as to limit and determine the proper

rate of speed with which such vehicle may be propelled nor in such manner as to require, direct or prohibit the use of bells, lamps and other appurtenances nor to prohibit the use of any vehicle upon that part of the highway, street, park, or parkway, commonly known as the footpath or sidewalk.

§ 328. **Depositing ashes, stones, sticks, etc., upon the highway.**— Any person who shall deposit or throw loose stones in the gutter or grass adjoining a highway, or shall deposit or throw upon a highway, ashes, papers, stones, sticks, or other rubbish, shall be liable to a penalty of ten dollars to be sued for and recovered by the town superintendent. No stone or other rubbish shall be drawn to and deposited within the limits of any highway, except for the purpose of filling in a depression or otherwise improving the highway, without the consent and under the direction of the town superintendent.

§ 329. **Steam traction engines on highways.**— The owner of a steam roller, steam traction engine or any other machinery, either propelled or driven by steam, his servant or agent shall not allow, permit or use the same, pass over, through or upon any public highway or street except upon railroad tracks, unless such owner or his agents or servant shall send before the same a person of mature age, at least one-eighth of a mile in advance, who shall notify and warn persons traveling and using such highway or street with horses or other domestic animals, of the approach thereof, and at night such person shall carry a red light, except in incorporated villages and cities.

Damages for failure to comply. Where a steam roller is used upon the highway without sending a person ahead to warn travelers of its approach, and the plaintiff's horse is frightened thereby, a verdict for the plaintiff is warranted if there be no contributory negligence on his part. *Buchanan's Sons v. Cranford Co.*, 112 App. Div. 278, 98 App. Div. 378 (1906).

§ 330. **Injuries to highways.**— Whoever shall injure any highway or bridge maintained at the public expense, by obstructing or diverting any creek, water-course or sluice, or by dragging logs or timber on its surface or by drawing or propelling over the same a load of such weight as to injure or destroy the culverts or bridges along the same, or of such weight that will destroy, break or injure the surface of any improved state, county or town highway, or by any other act, or shall injure, deface or destroy any mile-stone or guide-post erected on any highway, shall for every such offense forfeit treble damages.

Amended by L. 1910, ch. 568.

§ 331. **When town not liable for damages.**—No town shall be liable for any damage resulting to person or property by the reason of the breaking of any bridge, sluice or culvert, by transportation on the same of any traction engine, portable piece of machinery, or of any vehicle or load, together weighing eight tons or over, but any owner thereof or other person engaged in transporting or directing the same shall be liable for all damages resulting therefrom.

§ 332. **Law of the road.**—1. Whenever any persons traveling with any carriages, or riding horses or other animals, shall meet on any turnpike road or highway, the persons so meeting shall seasonably turn their carriages, horses, or other animals to the right of the center of the road, so as to permit such carriages, horses, or other animals to pass without interference or interruption.

2. Any carriage or the rider of a horse or other animal, overtaking another shall pass on the left side of the overtaken carriage, horse or other animal. When requested to do so, the driver or person having charge of any carriage, horse or other animal, traveling, shall, as soon as practicable, turn to the right, so as to allow any overtaking carriage, horse or other animal free passage on his left.

3. In turning corners to the right, carriages, horses or other animals shall keep to the right of the center of the road. In turning corners to the left, they shall pass to the right of the center of intersection of the two roads.

4. Any person neglecting to comply with, or violating any provision of this section shall be liable to a penalty of five dollars to be recovered by the party injured, in addition to all damages caused by such neglect or violation.

§ 333. **Trees; to whom they belong.**—All trees standing or lying on any land within the bounds of any highway, shall be for the proper use of the owner or occupant of such land, except that they may be required to repair the highway or bridges of the town.

§ 334. **Injuring fruit or shade trees.**—It shall be unlawful for any person or persons whatsoever in this state to hitch any horse or other animal to or leave the same standing near enough to injure any fruit or forest tree growing within the bounds of the public highway, or used as a shade or ornamental tree around any schoolhouse, church or public building, or to cut down or

mutilate in any way any such ornamental or shade tree; but the right of property owners along the highway to cultivate, train and use such shade trees shall not be impaired or abridged hereby. Any person or persons guilty of violating the provisions of this section shall be deemed guilty of misdemeanor, and shall be punishable by a fine of not less than five dollars, nor more than twenty-five dollars for each such offense, and in case of failure to pay any fine imposed, may be committed to jail, not exceeding one day for each dollar of such fine. Courts of special sessions having jurisdiction to try misdemeanors, as provided by section fifty-six of the code of criminal procedure, shall have exclusive jurisdiction to try offenders in all cases occurring in the same manner as in other cases, where they now have jurisdiction, and subject to the same power of removal, and to render and enforce judgments, to the extent herein provided. All fines collected under the provisions of this act shall be paid when the offense is committed in a town outside of incorporated villages, to the supervisor of the town, to be used as the town board and town superintendent may direct. When the offense is committed in any village of the county, which by law is constituted a separate road district, the fine shall be paid to the treasurer of said village, to be used as the board of trustees may direct.

§ 335. **Penalty for falling trees.**— If any person shall cut down any tree on land not occupied by him, so that it shall fall into any highway, river or stream, unless by the order and consent of the occupant, the person so offending shall forfeit to such occupant the sum of one dollar for every tree so fallen, and the like sum for every day the same shall remain in the highway, river or stream.

§ 336. **Fallen trees to be removed.**— If any tree shall fall, or be fallen by any person from any inclosed land into any highway, any person may give notice to the occupant of the land from which the tree shall have fallen, to remove the same within two days; if such tree shall not be removed within that time, but shall continue in the highway, the occupant of the land shall forfeit the sum of fifty cents for every day thereafter, until the tree shall be removed.

§ 337. **Penalties, how recovered.**— All penalties or forfeitures given in this chapter, and not otherwise specially provided for, shall be recovered by the town superintendent, in the name of the town in which the offense shall be committed; and when recovered, shall be applied by them in improving the highways and bridges in such town.

§ 338. **Acquisition of plank roads.**—The board of supervisors of any county, except a county wholly within the city of New York, and except the counties of Erie and Essex, may by a vote of a majority of the members thereof, by resolution, determine to acquire the rights and franchises of any individual or corporation, lawfully entitled to exact toll or charge for walking, riding or driving over any plankroad or turnpike, or a bridge within such county, erected over any unnavigable stream, or over the Hudson river above Waterford. Upon the adoption of such resolution, the board of supervisors shall acquire such rights, franchises and property by purchase, if able to agree with the owners thereof, and otherwise by condemnation in the name of the county.

§ 339. **Borrowing money; bonds.**—The board of supervisors of such county may borrow money for the acquisition of such rights, franchises, and property, and may issue the bonds or other evidences of indebtedness of the county therefor, but such bonds or other evidences of indebtedness shall not bear a rate of interest exceeding five per centum per annum and shall not run for a longer period than twenty years and shall not be sold for less than par.

§ 340. **Raising money to pay bonds and interest.**—Except in the counties of Rensselaer, Onondaga, Albany and Columbia, the amount of such bonds in whole or in part together with the interest thereon may be apportioned by the boards of supervisors upon the towns, cities and villages constituting separate highway districts, in which such plankroad, turnpike or bridge is located, in such proportions as the boards may deem just and the amount so apportioned to each municipality for the payment of the principal and interest of such bonds shall be annually levied and collected at the same time and in the same manner as money for other county charges. In the counties of Rensselaer and Columbia, the boards of supervisors, in making up the annual tax budget of the counties, shall each year levy and assess upon and against the taxable property in said counties in addition to the amounts levied and assessed for other county charges, an amount sufficient to pay the interest falling due and payable on the said bonds during such year, and also an amount sufficient to pay the proportion of the years fixed at the time during which said bonds shall run from their issue to maturity. The amount raised by tax in each year for the payment of the principal of said bonds shall be preserved intact by the county treasurers of said counties until said bonds mature and are payable, and upon the maturity of said bonds, said county

treasurer shall pay the same in full out of the moneys so raised by annual tax therefor and shall thereupon take back said bonds with receipts for the payment thereof and deliver them to the boards of supervisors of said counties for cancellation. Said county treasurer shall deposit at interest the said moneys yearly raised by tax for payment of the principal of said bonds in such bank or depository as shall be designated by the boards of supervisors of said counties, and the amount realized from the interest thereon shall be used for the purposes of the said counties under the direction of the said boards of supervisors.

§ 341. **Roads so acquired to be part of highway system.**— A plankroad, turnpike or bridge acquired pursuant to this article shall become a part of a highway system of such county and of the towns, cities and villages in which the same is located, and shall thereafter be repaired and maintained in the same manner as the other highways or bridges therein.

§ 342. **When road is in two or more counties.**— When a plankroad, turnpike, toll road or bridge is partly in one county and partly in another, the boards of supervisors of the said counties shall act together in the manner prescribed above, and determine the amount to be paid to said plankroad, turnpike, toll road or bridge company, by each county, and such amount against each county, after such determination, shall be paid by each county.

§ 343. **Albany post road; railroad tracks thereon.**— The old established road along the valley of the Hudson river from the city of New York to the city of Albany, known as the Albany post road, shall be a public highway for the use of the traveling public forever. The said highway shall be kept open and free to all travelers, and shall not be obstructed in any way by any obstacle to free travel. No trustees of any village or corporation of any city upon its route, or town superintendents of highways of towns, or any other person or board whatever, shall have any power or authority to authorize or license the laying of any railroad track upon said highway, except to cross the same, and any such action shall be void and of no effect. This section shall not apply to any portion of said road within the city of New York, nor shall it apply to the road of the president, directors and company of the Rensselaer and Columbia turnpike, nor to the town of Cortlandt or the village of Sing Sing, in Westchester county.

Amended by L. 1910, ch. 658.

ARTICLE XIII.

Saving Clause ; Laws Repealed ; When to Take Effect.

Section 350. Transfer of powers and duties of state engineer.

351. Transfer of records ; eligibility of present employees.

352. County engineers and superintendents of highways to be continued in office.

353. Pending actions or proceedings.

354. Saving clause.

355. County highway maps preserved.

356. Construction.

357. When to take effect.

358. Laws repealed.

§ 350. **Transfer of powers and duties of state engineer.**—On and after the taking effect of this chapter, and the appointment and qualification of the state commission as herein authorized, all the powers and duties of the state engineer in respect to highways and bridges, conferred and imposed by any statute of this state, shall be transferred to the department of highways to be exercised and performed by the state commission of highways as provided herein.

§ 351. **Transfer of records ; eligibility of present employees.**—The state engineer shall transfer and deliver to the state commission of highways all contracts, books, maps, plans, papers and records of whatever description, in his possession when such commission is appointed and have qualified, pertaining to the construction, improvement, maintenance and supervision of highways and bridges and such commission is authorized at such time to take possession of all such contracts, books, maps, plans, papers and records. The commission may also retain in its employment resident and other engineers, levelers, rodmen, clerks and employees engaged or connected with the department of highways in the office of the state engineer, or employed by him in connection with the powers and duties exercised and performed by him in respect to highways and bridges, and all such engineers, clerks and employees shall be eligible to transfer and appointment to positions under the commission.

§ 352. **County engineers and superintendents of highways to be continued in office.**—County engineers and superintendents of highways in office when this chapter takes effect shall be continued in office during their present term of office and until the district or

county superintendents shall have been appointed and have qualified as provided in this chapter. Such county engineers and superintendents of highways shall exercise the powers and perform the duties hereby conferred and imposed upon district or county superintendents until the appointment and qualification of a district or county superintendent as above provided. Upon the appointment and qualification of a district or county superintendent for the county for which such county engineer or superintendent of highways is appointed all contracts, books, maps, plans, papers, and records pertaining to the construction, improvement, maintenance and supervision of highways in such county shall be transferred to such district or county superintendent.

§ 353. **Pending actions or proceedings.**— This chapter shall not affect pending actions or proceedings, civil or criminal, pertaining to the construction, improvement, maintenance, supervision or control of highways and bridges, brought by or against the state engineer, or county engineer or a county superintendent of highways, or a commissioner of highways, under the provisions of any statute hereby repealed, but the same may be prosecuted or defended in the same manner by the commission or by the officer having jurisdiction in respect thereto. Any investigation, examination or proceeding undertaken, commenced or instituted by the state engineer, county engineer or highway commissioner or either of them relating to highways or bridges may be conducted or continued to a final determination by the proper officer hereunder, in the same manner, and under the same terms and conditions, and with the same effect as though this chapter had not been passed.

§ 354. **Saving clause.**— The repeal of a law, or any part of it specified in the annexed schedule shall not affect or impair any contract, or any act done, or right accruing, accrued or acquired or any penalty, forfeiture, or punishment incurred prior to the time when this chapter or any section thereof takes effect, under or by virtue of the laws so repealed, but the same may be asserted, enforced, prosecuted, or inflicted, as fully and to the same extent, as if such laws had not been repealed. The provisions of this chapter shall not affect or impair any act done or right accruing, accrued or acquired under or in pursuance of any resolution adopted by the board of supervisors of a county, on or before the thirty-first day of December, nineteen hundred and eight, requesting the construction or improvement of a highway therein, as

provided in chapter one hundred and fifteen of the laws of eighteen hundred and ninety-eight, and the acts amendatory thereof, or under or in pursuance of any resolution adopted on or before such date by a board of supervisors, under such act and the acts amendatory thereof, providing for the construction or improvement of a highway in a county in accordance with maps, plans and specifications submitted to such board by the state engineer, or under or in pursuance of any contract for the construction or improvement of a highway, awarded as provided in such chapter one hundred and fifteen of the laws of eighteen hundred and ninety-eight, and the acts amendatory thereof. All further proceedings in respect to such highway shall be taken in accordance with the provisions of this chapter.

§ 355. **County highway maps preserved.**—The county highways to be selected by the commission for construction or improvement, as provided in this chapter, shall be the highways in the respective counties designated upon the map of the highways of the state, prepared by the state engineer as provided by law, and approved by the legislature by chapter seven hundred and fifteen of the laws of nineteen hundred and seven; except the highways on such map which have been designated and described as state highways by section one hundred and twenty of this chapter. Such map shall remain in full force and effect notwithstanding the repeal of such chapter seven hundred and fifteen of the laws of nineteen hundred and seven by this chapter; except that the board of supervisors of any county is hereby authorized to modify the designation of county highways on such map by resolution duly adopted by a majority vote of the members of such board, provided the total mileage as originally designated upon the county map in such county is not thereby materially increased. A certified copy of such resolution shall be transmitted to the commission, or to the state engineer if the same be adopted prior to the appointment and qualifications of the commission.

§ 356. **Construction.**—Wherever the term state engineer shall occur in any law, contract or document such term shall be deemed to refer to the state commission of highways as established by this chapter so far as such law, contract or document pertains to matters which are within the jurisdiction of such commission of highways. Wherever the term county engineer or county superintendent of highways is used in any such law, contract or document such term shall be deemed to refer to and include

the county or district superintendent having jurisdiction of the matter contained in such law, contract or document.

The provisions of this chapter so far as they are substantially the same as those existing at the time they shall take effect, shall be construed as a continuation of such laws, modified or amended, according to the language employed in this chapter, and not as new elements. References in laws not repealed to provisions of law incorporated in this chapter and repealed, shall be construed as applying to the provisions so incorporated.

§ 357. **When to take effect.**— This chapter shall take effect the first day of January, nineteen hundred and nine, except as to the provisions specified as follows:

1. The provisions of sections forty-three, ninety, ninety-one, ninety-four, ninety-five, ninety-nine, and one hundred, relating to highway commissioners, estimates of expenditures, duties of town board in respect thereto, levy of taxes, the limitation of amounts to be raised, submission of propositions at town meetings, assessments of village property and statements by the clerk of the board of supervisors to the comptroller, shall take effect immediately.

2. The provisions of sections one hundred and thirty and one hundred and thirty-one of this chapter, pertaining to the award of contracts for the construction of county highways shall take effect immediately and shall apply to contracts to be awarded under chapter one hundred and fifteen of the laws of eighteen hundred and ninety-eight and the acts amendatory thereof, prior to January first, nineteen hundred and nine; and until the commission shall have been appointed and have duly qualified, the state engineer and surveyor shall exercise the powers and perform the duties conferred upon the said commission by the foregoing sections.

3. The provisions of section one hundred and seventy-nine, relating to the sprinkling of state and county highways and the removal of refuse therefrom; the provisions of section two hundred and eighty, relating to the construction or improvement of highways at the joint expense of a county and town, and the provisions of section three hundred and fifteen relating to the modification of maps by boards of supervisors and the provisions of this section shall take effect immediately.

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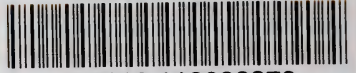
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